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DIAGNOSTIC TECHNIQUES FOR CHILDREN WITH CEREBRAL PALSY*

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RHODE ISLAND'S center for cerebral palsied children . . . The Meeting Street School . . . has completed its first year on a demonstration basis. There, these children receive treatment, training, and guidance under medical supervision. The results are proving satisfactory, if one believes that the major consideration in cerebral palsy is habilitating these children and their families to some measure of normal living. By using the school as a hub for the many therapeutic programs the successful handling of the cerebral palsied entails, these children have made enough progress to warrant continuing the experiment.

An important feature of the school is the research approach, which means the taking of detailed medical histories is essential. From these records an opportunity is afforded to make constructive contributions to the cerebral palsy problem as it exists in this state. From these histories, one is impressed by the antagonism of parents towards the medical profession, principally because many were lulled into believing that their child would develop normally, although specific developmental retardations were fairly obvious during the latter part of the first year. It is believed this attitude could be averted if the profession were better acquainted with the methods used in making an early diagnosis of cerebral palsy. Although this may not seem important in a disorder which is lifelong, early diagnosis has great psychological significance. Early, the family can be helped by their doctor to readjust their lives around a crippled child. As it is now, many shy away from medical care. Early, better therapeutic results may be achieved, since many deformities do not become fixed until later in childhood.

Materials and Methods

This presentation is based on data obtained from hospital and physician's records, examinations, and observations of 37 cerebral palsied children treated at the Meeting Street School, as well as experiences in private practice. Inquiries were specifically pointed toward genetic or familial tendencies, health of the mother before and during pregnancy, the delivery, as well as that of the patient during the neonatal and developmental period. Records of all hospital admissions were also investigated.

Because of a time limitation, only clinical methods utilized in the diagnosis of cerebral palsy in early life will be discussed. Adjunctive laboratory techniques such as electroencephalography and psychological testing also used in the school, will not be included. A diagnosis of cerebral palsy in most children was made by history, developmental tests, and a physical examination.

Diagnostic Techniques

General Considerations—Cerebral palsy should not be considered primarily a condition of muscular dysfunction characterized by spasticity, athetosis, or dystonia, but rather one in which convulsions, retardation, and personality disorders may be part of the picture. Therefore, the approach to the problems of the cerebral palsied child should be an overall one; one in which each of the components of the syndrome should be properly evaluated. In early life, this is difficult, since related conditions like epilepsy, mental deficiency and behavior disorders of organic origin may present identical signs and symptoms. All these related entities, for convenience in diagnosis, may be classed together as the "brain-damaged syndrome". This classification can be readily understood, since the common basis for these disorders is cerebral dysfunction secondary to brain damage or malformation. It is not unusual to find an infant with only transient hypertonia, later to develop a spastic hemiplegia, whereas one who in infancy had particularly hyperactive re-

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flexes, in later childhood developed seizures without signs of motor impairment. It is common for a defective child to retain infantile reflexes, such as the Babinski, yet have hypotonia. Similarly, an infant who was hypertonic, may develop normally, except be found to have an abnormal electroencephalogram. These examples demonstrate the handicaps to early diagnosis of cerebral palsy, since many neurodiagnostic criteria used in older people are not applicable to young children. Because of the undifferentiation of neurological signs and symptoms in infancy, it is frequently impossible to determine which component of the "brain-damaged syndrome" will be outstanding in later life.

Cerebral palsy has been classified, by virtue of neuromotor dysfunction, into several types. The most common are spastic paralysis and athetosis but ataxia, rigidity and mixed dystonias are not unusual. These vary in degree from the very mild, limited to small or isolated segments, to severe, with resulting generalized crippling states. The severe cases are not diagnostic problems, even during the first weeks of life. However, those children with mild to moderate disability, during the first year or so, frequently present only fleeting evidences of palsy. Gradually the diagnosis clarifies itself, and the physician's opinion of his own diagnostic acumen takes a decided drop. It is this type of child this report concerns.

Family history—A high index of suspicion regarding the diagnosis of cerebral palsy can be obtained from a proper history. The causative factors in this syndrome may be obscure, particularly when related to a specific child. However, familial or genetic tendencies, certain conditions which occur before and during pregnancy, during the delivery, and neonatal period are commonly associated in the histories of cerebral palsied children and their parents. There is evidence to suggest that a major cause of cerebral palsy may be due to developmental cerebral malformations, some of which may be on a genetic basis[1]. Therefore, a history of other defective children in the family is significant. This has occurred in two instances in this group. Two important extra-genetic causes of congenital defects are German measles and previous maternal pelvic irradiation[2]. This has not been found in this study. However, histories of the mothers who have children in attendance at the school are striking regarding the high incidence of abortions, premature labors, and stillbirths (48%)*. The majority occurred prior to the delivery of a palsied offspring. In this study, 38% of these mothers suffered from a long standing illness prior to pregnancy (Table 1).

NO. OF MOTHERS STUDIED		37
No. With Abortions, Premature Labors, Stillbirths		18 (48%)
Total No. Abortions, Premature Labors, Stillbirths		27
No. With Chronic Illnesses Prior Cerebral Palsied Pregnancy		14 (38%)
Hypertension	1	
Thyrotoxicosis	3	
Cholecystitis	1	
Anemia	4	
Psychoneurosis	2	
Phlebitis	1	
Chorea	1	
Hernia	1	

TABLE 1. — Medical Histories of 37 Mothers Who Gave Birth To Cerebral Palsied Children.

Pregnancy history—The average age of the mothers at the time of delivery was 28.2 years, significantly higher than the average maternal age in this country. Other studies have also implied that this may be a causative factor in cerebral palsy (1,4). The majority of these mothers (54%) had a high incidence of illnesses during pregnancy. The most common were nausea, anemia, and hemorrhages Table 2). Recent evidence incriminates these ailments common to pregnancy as possible causes of anoxia, a major factor in aberrant central nervous system development[5].

Average Age of Mothers	28.2	
No. With Severe Illnesses During Pregnancy	20	(54%)
No. of Illnesses During Pregnancy	46	
Nausea	13	(65%)
Anemia	7	(35%)
Hemorrhages	6	(30%)
Hypertension	4	(20%)
Hypotension	3	(15%)
Excessive Fetal Activity	3	(15%)
Diminished Fetal Activity	2	(10%)
Accidents to Abdomen	2	(10%)
Pneumonia	1	(5%)
Cholecystitis	1	(5%)
Pyelitis	1	(5%)
Pleurisy	1	(5%)
Thyrotoxicosis	1	(5%)
Toxemia	1	(5%)

TABLE 2. — Pregnancy Histories of 37 Mothers Who Gave Birth to Cerebral Palsied Children.

Delivery—The majority of mothers had good obstetrical care by private physicians in hospitals. The incidence of primiparas (32%) was not unusually high, nor was the duration of labor unusual in most. However, a high number (57%) had some complication during pregnancy.

If one were to exclude low forceps delivery as a complicating factor, then premature rupture, breech and mid-forceps delivery were outstanding. Premature rupture and precipitate delivery have been reported as probably causative factors in another study[4].

* The abortion frequency in a large study of routine pregnancies was 15.4%.[3]

Delivery at Hospital		31 (84%)
Private Physician	23	
Clinic	8	
No. Primiparas		12 (32%)
Duration of Labor		
Under 5 Hours		3 (13%)
Over 24 Hours		3 (13%)
No. With Complications During Labor		21 (57%)
No. of Complications		29
Low Forceps	9 (31%)	
Premature Rupture	6 (20%)	
Breech	4 (13%)	
Mid-Forceps	4 (13%)	
Caesarian	2 (6%)	
Dry Birth	2 (6%)	
Precipitate Delivery	2 (6%)	
Cholelithiasis	1 (3%)	

TABLE 3. — Delivery Records of 37 Mothers Who Gave Birth to Cerebral Palsied Children.

Birth and neonatal history—25 children (67%) had some abnormal sign or symptom noted at birth or shortly after. Of this group, nine (36%) were premature infants. This is four times the incidence of prematurity in the population at large[6]*. Eight (32%) had diseases associated with bleeding, or had an anomaly, while eight others had some aberrant developmental sign or symptom. These were cyanosis, twitching, or a generally poor condition attributed to the effects of anoxia. A substantial number of these children (48%) required oxygen and/or transfusions at birth. Twelve children (32%) seemed normal during the first year of life. However, of this group, 4 (33%) received oxygen and/or a transfusion for a diversity of causes. (Table 4).

NO. CHILDREN STUDIED		37
No. With Abnormal Signs/Symptoms At Birth or Neonatal		25 (67%)
1. No. of Prematures		9 (36%)
2. No. With Diseases or Anomalies		8 (32%)
Erythroblastosis	2	
Hemorrhagic Diathesis	2	
Hydrocephalus	2	
Meningocele	1	
Subdural Hematoma	1	
3. No. With Developmental Signs/ Symptoms		8 (32%)
No. With Abnormal Signs/Symptoms At Birth Receiving Oxygen and/or Transfussions		12 (48%)
No. Normal Developmental Signs/ Symptoms First Year Of Life		12 (32%)
No. Normal Developmental First Year Of Life Receiving Oxygen and/or Transfusions		4 (33%)

TABLE 4. — Hospital Birth Records of 37 Cerebral Palsied Children.

Infancy history—Seventeen children (45%) had signs and/or symptoms suggesting brain damage during the neonatal period. Most of the signs or symptoms were similar to, but in excess of, those considered due to colic. The outstanding signs were vomiting, stiffening, crying, cyanosis, sucking difficulties and tendency to bruise easily (Table 5).

No. Children Studied		37
No. With Signs/Symptoms Suggesting Brain Damage Neonatal Period		17 (45%)
Average Number Signs/Symptoms Per Patient		5.4
Excessive Vomiting	11 (30%)	
Unusual Stiffening	10 (27%)	
Excessive Crying	10 (27%)	
Cyanosis	9 (24%)	
Sucking Difficulty	8 (22%)	
Bruises or Hemorrhages	8 (22%)	
Jaundice, Persistent	7 (20%)	
Twitching	7 (20%)	
Convulsions	6 (16%)	
Startled Easily	6 (16%)	
Choking on Liquids	5 (13%)	
Feeble Cry	4 (11%)	
Irritable When Held	4 (11%)	
Drowsiness	3 (8%)	
Reverse Swallowing	3 (8%)	
Deformed Head	3 (8%)	
Limpness	3 (8%)	
Grunting Respirations	1 (3%)	
Strabismus, marked	1 (3%)	

(Colic, Coma, Bloody Diarrhea, Edema also Noted)

TABLE 5. — Early Signs or Symptoms of 37 Cerebral Palsied Children.

Developmental history—A developmental history revealed evidences of retardation in progress during the infancy period. Whereas in the normal child, good head control will be established at 3 months of age, in sixteen children in this study, this was not achieved until four to seventeen months. Similarly, there was delay in reaching, rolling over from the prone to a supine position, and sitting without support. In a few children these items were delayed for as long as sixty months. A failure to crawl or creep seemed outstanding in these children.

In the majority, the achievement of the mature developmental items was prolonged into the second to sixth year, so that walking, talking, and manipulation of objects were definitely late in onset, if at all. The fact that many of the patients smiled and made sounds before they were four months old tended to make parents and physicians alike oversecure, making them less aware of impending disaster as forecast by slowness in achieving developmental maturity (Chart I).

Developmental tests—Developmental retardation is usually a reflection of brain injury. This can be evaluated best by using the Gesell Developmental Examination[7]. It can be performed as part of the usual monthly examination during the first year of life. Early, the failure to attain maturity at a specific period may be the only indication of cerebral palsy. The important criteria are outlined (Table 6).

Head Control The normal infant usually can lift his head upwards from the prone position for short

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* The incidence of prematurity in a 15 year study was 9.4%.[8]

Sign	Normal (To Age Specified)
1. Failure to Erect Head From Prone	12 Wks.
2. Fisted Hand	16 Wks.
3. Failure to Reach	20-24 Wks.
4. Persistent T-N-R	24 Wks.
5. Failure to Hold Objects	32 Wks.
6. Crawling	32-40 Wks.
7. Failure to Sit Without Support	32-40 Wks.
8. Failure to Achieve Prehensile Grasp	36 Wks.
9. Failure to Support Weight	36 Wks.
10. Noises only (da-da)	12 Mos.
11. Failure to Hold Objects	15 Mos.
12. Failure to Walk	18 Mos.
13. Failure to Speak	24 Mos.

TABLE 6. — Criteria Utilized During Infancy For Early Diagnosis Of Brain Injury.

periods during the first month of life. It is significant if a baby cannot hold his head erect, though wobbly, at the age of twelve weeks, or if full head control is not attained at twenty-four weeks.

Fisted hand The normal infant holds his hands in a closed fisted position during the first sixteen weeks of life. If this position persists after that age, it may indicate spasticity.

Failure to reach Failure to reach for or to hold objects are early signs of neuromotor impairment.

Tonic Neck Reflex The rotation of the head to one side, with the arms in the fencing attitude, known as the tonic neck reflex, is a dominating characteristic during the first twelve weeks of life. Persistence of this position must be regarded as a definite diagnostic and grave prognostic significance so far as damage to the central nervous system, if it remains after the first half year (fig. 2).

Posture Delay in sitting, standing and walking points suspiciously to cerebral palsy. By eighteen months one expects normal children to walk unaided. A failure to attain such maturity, especially when other developmental deviations are present, is significant. Outstanding in this study has been the failure or marked delay in crawling, even though walking occurred.

Prehensile Grasp and Release The ability to use the thumb and forefinger in grasping is a specific sign of neuromaturity. This is attained at 9 months. Similarly, the ability to release objects gracefully should be achieved by fifteen months. Delay in acquiring these skills is characteristic of brain damage.

Physical Examinations Physical examinations of infants with cerebral palsy frequently are misleading. The immaturity of the central nervous system in early life leaves but few definite criteria for neuropathological diagnosis. Therefore, in evaluating brain damage, it is necessary to consider different neurodiagnostic signs for different age groups, depending upon the age that neuromotor patterns become mature.

Birth and Neonatal The general physical condition during the first few days of life as judged by apathy, vomiting, hypertonicity, and respiratory difficulty are important prognosticators of brain

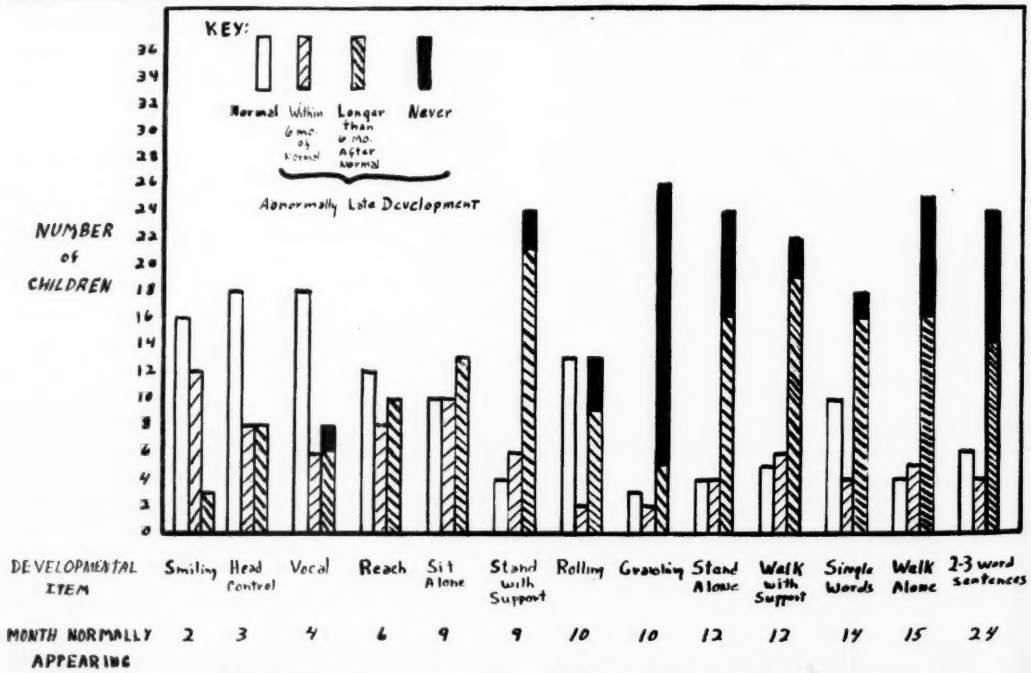

CHART I. — Development of 37 Children with Cerebral Palsy.

NORMAL REFLEXES

(Frequently Abnormal in Cerebral Palsy)

CRANIAL NERVES

Pupils
N III, IV, VI
N VII
N XII

DEEP REFLEXES

Biceps
Radial
Abdominal

Patellae

Ankle

PATHOLOGIC REFLEXES

(Frequently Present in Cerebral Palsy)

Nystagmus

MOVEMENT
Adiadokinesis
Athetosis
Chorea

GAIT
Spastic
Ataxic
Cerebellar

TONUS
Hypertonic
Plastic
Rigid

Stretch

Oppenheim

Babinski

Significant Even if Solitary

Babinski:
0-2 yrs Normal
2-10 yrs Slow Development or Brain Injury

Paralysis of:
N III, IV, VI } Strabismus
N VII Facial Paralysis
N XII Tongue Deviation

Significant When 2 or More Are Present
Pupils: Light reflex sluggish or absent
Nystagmus: Especially when unilateral
Oppenheim's Sign:
Adiadokinesis:
Babinski, modified
Increasing or decreasing deep reflexes—Especially when unilateral

Note: Modified by permission of Dr. A. Strauss (10)

CHART II. — Scheme for Short Neurological Examination To Determine Presence Of Brain Injury

damage. Although it is recognized that many children who have traumatic episodes at birth grow to normal adulthood[8], there is evidence to suggest many others present behavior maladjustments in childhood which can be traced to a poor birth history with probable brain damage in varying degrees[9]. A substantial number of children in this study were in poor physical condition at birth, tending to substantiate the importance of the aforementioned signs.

A simple test at birth can be used as a possible indicator of a later neuropathologic condition. It consists of evaluating the newborn's ability to resist a slow pull upwards from the supine to sitting position. The neonate whose head falls backward pulled down by its own weight, and whose body remains limp, is found later to have a higher incidence of neuropathological conditions than those whose heads actively lift up and whose bodies resist strongly the pull upwards.

Other signs of brain injury are convulsive tendencies, cyanosis, abnormal startle and sucking reflexes, and others commonly associated with anoxia or brain damage.

Infancy and Childhood In early life, the physical findings may be obvious or elusive, depending upon the location and degree of pathology. The younger the child, the less localized are the findings. In a mild or even moderate spastic infant, fixed deformities such as a tight Achilles tendon, is uncommon, and reflexes and coordination tests may be inconclusive. Because classic neurological syndromes are an unusual finding in young children, Strauss[10] has developed a neurological screening examination which has proved satisfactory in diagnosing cerebral palsy. This test, with a few modifications, emphasizes that only a few pathologic findings are necessary to reveal evidences of brain injury. A normal examination is fairly definite evidence that a brain lesion, as determined by clinical methods, is not probable. (Chart II)

The reactions of certain cranial nerves are frequently abnormal in cerebral palsy. The most frequent are those associated with extra ocular and tongue movements. Deep reflexes and tonus are usually increased and pathologic reflexes such as the Babinski and the stretch reflex are outstanding in spastic states. Abnormalities in movement, and coordination as manifested by a diadokokinesis is characteristic. Usually, the young spastic walks with a wide-based toddling gait, arms held high at the sides and flexed upwards with fingers out-

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THE IMPACT OF SOCIALIZED MEDICINE ON THE BRITISH PHYSICIAN AND HIS PATIENT*

CECIL PALMER

The Author. *Cecil Palmer, of London, England. Publisher, author, journalist, and signatory of the famous "Manifesto on British Liberty" issued by the Society of Individualists of which he is a leading spokesman.*

I am not a doctor but I am very much a patient. I have had first hand evidence of American medicine and of private practice, and except that I think it is almost as dear as socialized medicine, I can only offer you my congratulations on the services that you are rendering to mankind.

Mr. President, you have been good enough to say that I will try to paint a picture of Socialism in Great Britain—that's a rather general thing to attempt, and in this specialized audience I don't think I shall accept that invitation.

I have done it many times in the United States already, but it seems to me that you would be more pertinently interested if I more or less concentrated on socialized medicine in Great Britain.

Let me say in the first place that I have from the very beginning of socialized medicine in Britain bitterly and strenuously opposed it, and I would ask you to believe that I have opposed it on moral grounds, and it is my belief, ladies and gentlemen, that it is on moral grounds, primarily, that you must fight to preserve private practice in medicine.

In Britain, the doctors were winning all along the line, and it still is a mystery to me, as it is a mystery to many of my fellow countrymen, and it is a mystery to many members of the British Medical Profession — how it came about that at the eleventh hour, the medical profession gave up the ghost.

I believe it was due to the fact that the Minister of Health, in our present Socialist Government, was able to divert the issue from the moral basis to the business. He was able to make the doctors, by a very clever political formula, to discuss terms of service, whereas the doctors would have been on stronger ground if they had said there were no terms of service, under which they would degrade medicine by serving a state salaried medical service.

I go further, Mr. President and ladies and gentlemen, and I say that the medical profession in Britain made a contribution to the servile state that had not been exceeded by any previous measure of nationalization in my country. When the doctors were out and free, we had a chance; but when the doctors came in and made themselves the servants of the state—then we, indeed, had come to a position in which it would seem, at this moment, that we cannot possibly recover.

State paternalism is a curse and if I may be facetious, I may say from my own observation that socialism in Britain—socialism in practice, ladies and gentlemen, which is a very different thing from socialism in theory — I would say that socialism will work only in heaven where they don't want it, or in hell where they have got it already.

Two Trends Offer Hope

I believe there are two trends operating conjointly in Britain today which may save us. The one is, what I would term — The Women's Revolt, and the other is a purely economic one which is that socialized medicine is financially top-heavy.

But do you know, Mr. President and ladies and gentlemen, that the first year of operative socialized medicine in Britain is costing my impoverished country one billion dollars? And that is for socialized medicine alone, and when I tell you that socialized medicine represents only one-ninth of the total bill of social services throughout Great Britain, you will get some indication of the hopeless position we shall be in, financially, at the end, shall we say, of another year.

Indeed, Sir Stafford Cripps, to whom at least I pay tribute of sincerity, has already assured the nation that we cannot carry this heavy socialized medicine bill without some rearrangement of the contributions. One billion dollars a year! . . . for a service that is not to be compared with the practice of medicine as we had it before the socialists got the grip on us; and I would remind you, ladies and gentlemen, above everything else — to remember that Lenin, who was the architect of communism—Lenin said, that if he could control the doctors, he had the people.

And I am going to show to you that is a very great truth, and that it is integral to socialism in any country. If the doctors won't play, socialism won't work.

*An address delivered before the Conference of Presidents and Other Officers of State Medical Associations at its 5th Annual Meeting, at Atlantic City, N. J., June 5, 1949.

In other words, socialized medicine, in my humble judgment, is an integral part of socialism and facism in practice. But I am not going to stress the obvious financial instability of socialized medicine in Britain. I believe that the common sense of the British people will find its own solution to that problem at any rate, because we are being overtaxed and undernourished every day in every way.

I am going to take it on much broader grounds. I am coming back to my moral basis, and I say, without fear of honest contradiction, that socialized medicine in Britain has done two major things. In the first place, it has revolutionized the status of the doctor. His livelihood, his professional advancement, his allegiances and loyalties are now commandered by the state, his new master, who pays him once a quarter — his salary from the contributions collected from the patients.

And the second major thing it has done is that it has destroyed the relationship between the doctor and the patient.

I do not know with any measure of certainty what are the canons of medicine in America, but I know, and I assume that you know, too, that in British medicine every medical practitioner is bound insolubly to an immemorial oath. And that oath—the Hippocratic oath binds every medical man to observe secrecy and privacy in the relationships professional — between the doctor and the patient. And that has gone by the board.

Power of Statutory Instrument

I am one with many in Britain who envisaged that possibility and because of it, when the bill was passing through various stages in the House of Commons, through members of Parliament, had it challenged directly to the Minister of Health himself and, in response to that challenge, he gave a categorical assurance that privacy and secrecy in socialized medicine would be strictly observed.

Mr. President, ladies and gentlemen, within three weeks of the passing of that act, that same socialist Minister of Health issued what is termed in Britain a Statutory Instrument. I should explain to you in parenthesis, that a Statutory Instrument is one which any minister of the crown can exercise and issue, and when issued, has all the force of law, is above the rule of law, cannot be challenged in the courts, and has as much weight as any regularized act of Parliament.

And to show you how far my beloved country has trodden the crooked path that leads to the servile state, I would tell you that the Statutory Instrument which I am now going to refer is number 506. In other words, we had previously 505 Statutory Instruments, delegated legislation, which have never been discussed or debated in the House of Commons but which operate on the citizens of Britain as though those instruments were literally acts of Parliament.

Now the Statutory Instrument 506 which was issued three weeks after socialized medicine became operative, read like this:

It was headed Terms of Service.

The terms of service require every practitioner to keep records of the diagnosis and the treatment of all his patients, and to make such records available to the local Lay Council. The women, ladies and gentlemen, were the first to see the harsh impact of that implication. And they are in revolt in increasing numbers, because, if I may put it in a facetious way, the position has arisen thousands of times already where Mrs. Brown living in Block A is a patient, and Mrs. White living in Block B is a member of the Local Lay Council, and I leave it to your imaginations to envisage the potentialities and the possibilities for a little light gossip at the expense of Mrs. Brown's health.

Socialized Medicine Cannot Work

Socialized medicine in Britain is not working and cannot work. There are not enough doctors; there are not enough nurses; there are not enough hospitals; there are not enough clinics.

Every doctor in Britain, who practices in an industrial area, is expected to take 4,000 patients and every doctor in Britain practicing in the rural areas where traveling is longer and more arduous, is expected and indeed economically compelled to take 2,500 patients. And those doctors serving under socialized medicine receive for their professional services a per capita fee of $3.25 per patient per annum.

The situation, quite frankly, is this. That when you remember that every professional man in Britain who earns more than $4,000 a year — not a very princely salary—pays roughly 45% in direct income tax, you will see that that per capita fee doesn't keep the wolf from the door, and indeed it is true, and the British Medical Association is my authority on this, and I have worked in the closest contact with them, that there are many doctors up and down the length and the breadth of the British Isles today who are not only not making a living but are living on capital. Many of them are living on bank overdrafts. That is the economic situation for the doctor in Britain under socialized medicine, and so acute and urgent has the problem become that the British Medical Association has lodged with the Minister of Health a demand for an immediate increase in the per capita fee. The doctors' hope of getting it is exceedingly remote, because the same Minister of Health has already, at the end of ten months of operative socialized medicine, issued instructions to hospital authorities to cut down their expenditure and the result is that in many hospitals in Britain today they are cutting

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out wards and other services simply to make ends meet financially.

Two Significant Considerations

But I want to put it to you, and I count it a great privilege to be able to put it to you — I want to put to you two significant considerations. The architect of socialized medicine in Great Britain was Lord Beveridge — a very sincere man; a very old man. As a research student, I suppose, incomparable. But he believed, and I imagine still believes, that the State can do for you better those things you should want to do for yourself. Anyway, all his inspiration came from Germany, which country, if I may say so, was, in every sense, the Father of Social Services. And in his report of 300 printed pages, a report which I believe I am almost unique in having read from cover to cover, he made two assumptions. And I beg you to listen with the greatest care to the implications of all I am now going to say, because this is the side of socialized medicine which the press and the radio and the platform, if they mention it at all, soft pedal.

The report of Lord Beveridge contained, as I have indicated, two assumptions, and those assumptions, I may say, are embodied in the present act. The assumptions were called Assumption A and Assumption B.

Assumption A is that it is the duty of the patient to keep well, and

Assumption B is that it is the duty of the doctor to exercise harsh certification which, in plain English means that it is the duty of the doctor to return his patient to his job as quickly and as cheaply as possible.

You may think that I am exaggerating, but I will now ask you to consider another piece of legislation —dedicated legislation—in Britain which again has been soft pedaled. And I believe that you will discover precisely what I have discovered—that there is something deeper and more menacing in socialized medicine than appears on the surface.

In 1947 Great Britain woke up one morning and discovered itself saddled with what was called a Control of Engagements Order — 1947. It was never debated in the House—it was just a piece of delegated legislation which Ministers of the Crown can impose on my people in peace time.

Under the Control of Engagements Order every man and every woman between the ages of 18 and 50 can be and are directed by the State to take any job, anywhere, at any time, according to the State's choice. In other words, in the twinkling of an eye my people, despite their long constitutional history, found themselves saddled with industrial conscription in peacetime. It was brought in in '47 because our unemployment problem then was virtually non-existent and, therefore, it wasn't in an active sense operative. But it doesn't require much imagination to see that when unemployment increases and becomes measurable, the impact of that piece of legislation is going to be devastating to the liberty of the individual.

Now, I ask you as medical men and women, to put that Control of Engagements Order, an order which for all practical purposes made null and void habeas corpus and the Bill of Rights and the Petition of Rights, I ask you to put that act or that order against those two medical Assumptions, and you will see then, I think, perfectly clearly that when Lenin said that if he controlled the doctors, he had the people. You are getting, in those three things, precisely the ideal which Lenin envisaged.

Fellowship of Freedom

The medical profession in Britain, Mr. President, ladies and gentlemen, I am happy to say, is becoming increasingly aware of it. And Lord Horder, who I believe is in America at this very moment and who is, if I may say so, a personal friend of mine, never went into the scheme and, by the way, I should tell you that there were roughly 2,600 doctors in Great Britain who remained outside the scheme and have never come into it. But since the bill has become operative, and Lord Horder had brought into existence an institution which is not opposed to the British Medical Association, but which is, if I may say so in a non-committal way, more or less a ginger group and I ask you to note the title which is given to that new body of medical men and women, because as the late Gilbert Chesterton said "it is a tremendous trifle."

The title of that new institution is The Fellowship of Freedom in Medicine, and Lord Horder told me just before I flew over to the states that he had already enrolled in that institution 2,500 medical men and women, and he said to a reporter in New York, I think only a day or two ago, that it had increased now to a membership of approximately 3,000.

Every doctor in Britain is discovering to his sorrow that he is now a state salaried medical servant, and that his obligation to his patients are less important and less imperative than his obligations and his responsibility were to his patients under private practice.

In Great Britain today there are over 200,000 urgent cases requiring what we call institutional treatment. You, I believe, say in such circumstances that they require to be hospitalized. And, at the same time, there are 57,000 vacant beds in hospitals —1/9th of the whole beds of all the hospitals in Great Britain, and they are empty because there are neither the doctors nor the nurses to service them.

Under private practice in medicine in Britain, ladies and gentlemen, in Britain at any rate, the hospital was considered to be the haven for the poor man and the poor woman. That privilege

under socialized medicine is gone. He is no longer privileged because I would ask you to remember that socialized medicine is compulsory and that every man and woman in Britain, rich or poor, must contribute and the result is that thousands of men and women who hitherto have sound finances for their own illnesses are now demanding entrance to hospitals and crowding the poor out.

The socialists have talked a lot, ladies and gentlemen, about the common good of the common man. Personally I loathe the phrase. I don't believe a common man exists, and I have short circuited that point by asking you to remember that not even socialists yet have had the affrontery to refer to the common woman.

Under socialism in Britain we have been trying to do something that is quite fantastic, and you as professional men who are guardians of liberty in the very strictest sense should know it.

Weakening the Strong

If you ask me to put my finger on the malady in Britain today, I would say without a moment's hesitation that we have tried to strengthen the weak by weakening the strong. And we have tried to legislate unsuccessful people into prosperity merely by legislating successful people out of it.

For years — as long as I can remember, my people have been poisoned with the heresy that you can have in this wicked world something for nothing. It just does not add up. And I cannot, ladies and gentlemen, remember in my lifetime any single piece of legislation that has been put over with more ballyhoo than the so-called free medical service—free—free—the patient's contribution to socialized medicine in Britain amounts to $2,800,000 a week. If that is free medical service, I, as an ordinary businessman, ask for one that isn't, because it might be cheaper and it couldn't be dearer.

The British Medical Association has told our public in Britain that under socialized medicine it is not possible for any doctor to give more than five minutes for diagnosis and treatment of any patient who comes before him. Indeed the queues in doctor's surgeries which I believe you call offices are just too appalling and painful for words. It is common for women, for example, to appear at surgeries or offices in the morning, to leave at noon not having even seen the doctor; returning in the early evening and leaving then in the evening without seeing the doctor and returning the next morning.

The Regimented Doctor

The life of the doctor under socialized medicine is the life of a glorified clerk and nothing else. All his case reports which were private and confidential and which were his exclusive property are now made out in triplicate and are made available to Local Lay Councils and to Regional Boards. I mentioned the status of the doctor. Even in the highly individual perogative of a doctor, namely, prescribing for his patient, he is no longer master of himself, because regional boards can override a prescription and have done so many times already. The moral and scientific degradation of medicine has been so terrible in Britain in the few short months that it has been in operation, that I tremble to think what will happen to my country if we don't come back to political sanity and make readjustments more in keeping with the hearts and souls of men and women.

As an individualist, ladies and gentlemen, I believe every man, woman and child in the universe is unique. And I believe, too, in a very real sense that the medical profession above all has a tremendous responsibility and a tremendous privilege to keep the light of liberty strong. We are living in semi-darkness in Britain and I say at this end as I said at the beginning that I believe that the medical profession in Britain without knowing it has made a greater contribution to our serfdom than any other single piece of nationalization that has been put upon a perplexed, bewildered and war weary public.

My only hopeful thing for you so far as Britain is concerned is that we are beginning to wake up, and if I may say so, Mr. President, in listening to the speakers who have preceded me, I did gain some measure of encouragement because at least it seems to me that your profession is aware of what must happen to your noble profession if you ever find yourselves under the state — state paternalism in Britain is sapping our vitality; it is destroying our capital and is making all of us, in one way or another, eligible for the ranks of crookdom. It is impossible in Britain, I am not exaggerating — it is impossible in Britain today to lead a strictly moral life in an ethical sense. We all have to dodge the law in one way or another in greater or less degree. And, under socialized medicine, that kind of petty misdemeanor has grown conspicuously. People are going to doctors with imaginary complaints, and indeed it is not an exaggeration to say that we are in living danger of becoming a nation of hypochrondriacs.

J. F. KENNEY CLINIC DAY

Dr. J. Lincoln Turner, president of the Interne Alumni Association of the Memorial Hospital has announced the preliminary program for the afternoon session of the John F. Kenney Clinic Day on Wednesday, November 2 to be a discussion of "Spleen, Hypersplenism, and Splenectomy." Discussants will be Dr. William Dameshek, visiting hematologist at Pratt Diagnostic hospital and professor of medicine at Tufts, and Dr. C. Stuart Welch, surgeon at Pratt hospital and professor of surgery at Tufts.

The RHODE ISLAND MEDICAL JOURNAL

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PEDIATRIC SURVEY IN RHODE ISLAND

IN this issue is a summary of the report of the Child Health Services. This was compiled in 1946 and 1947 after exhaustive investigation by the American Academy of Pediatrics. This is one of the few, if not the first, such investigations made to determine the efficacy of medical care in one portion of the population. Every physician should read this in order that he may become acquainted with conditions as they exist. The survey was nation-wide and included a study of medical and dental services, hospital facilities and state board of health programs.

It was discovered that 90%-95% of the medical care of children of this nation is given by the general practitioner, that pediatric training of doctors is inadequate and that provisions should be made for further education of the general practitioner in the branch of pediatrics particularly that concerning preventive medicine. This criticism may seem unfair inasmuch as the infant mortality rate in Rhode Island is under 30 deaths per 1000 births; whereas in 1915 the infant mortality rate was 115 deaths per 1000 births. We have not stood still even though the report indicates insufficient pediatric education. In looking ahead it must be admitted that the future of our nation depends upon the mental and physical health of each component part—that is, the individual and that each adult starts in life as a child; hence the importance of infant and child health care.

The survey reveals the fact that the general practitioner devotes 31% of his time to children. Almost one-third of the practice of the general practitioner, in other words, is given over to the care of children; thus it can be seen how important is the pediatric education of all physicians who deal with children —general practitioners and pediatricians alike. There is still much for us all to learn. In addition to the responsibility of the physician to the child, many children must be treated and guided throughout their childhood by the hospitals. This study was made at a time of economic prosperity. When in the wave of life our economy changes, the hospitals must take over through clinics. This must include clinics for the handicapped child such as those having defects of speech and hearing and those suffering from epilepsy.

A great part of the work must be done in the recreation and education of the retarded child. There must be more intensive programs of immunizations. After fifteen years of satisfactory use, whooping cough vaccine must be accepted as a means of almost definite prevention of whooping cough in the first four years of life. These are the vulnerable years to fatal complications. Dental care for children must be more universal. This should include school dental examinations. There should be a free communion of ideas between physicians and dentists. This is idealism. In the busy

lives of both dentists and physicians, it seems hard to achieve such a state.

Now that the report of the Child Health Services is available, every physician should read it and be prepared to accept and help carry out the recommendations of the committee who deserve an immense amount of credit for the amount of time and effort they have spent in the preparation of this report.

BOOK MAKING HAZARDS

The daily press has very properly called attention to the fact that men arrested for illegally running book making parlors have on a number of occasions been excused from overnight incarceration in a police cell, as physicians have certified that they were in a precarious health condition which would be adversely influenced.

The Council of the Rhode Island Medical Society has considered this situation and are disturbed by it. The press opines that book making must be one of the hazardous occupations judging by the high percentage of sick men found in it. This has all been treated in a light manner, but it really is not a good joke to us who are interested in the good name of the medical profession.

Probably it is a rare physician who has not been asked at some time to examine a person whom the police have pronounced to be drunk. Most of us don't like being mixed up in such matters. There is always a large amount of scepticism in the public mind about the genuineness of our argument with the police about the alcoholic content of our patients. We should be still more concerned that we do not get the reputation of being obliging persons willing to help law-breaking bookies out of an unpleasant situation.

In one case reported to the Council a doctor had testified that the bookie had possibly a peptic ulcer or nervous indigestion and that confinement in a police cell would seriously affect his health. We have never had the interesting experience of being locked in such a place. Presumably the physical conditions there are not luxurious. We would doubt whether they were actually detrimental to the physical health of an overnight lodger.

One of our past presidents remarked that the life of a malefactor running an illegal gambling place must be continuously bad for any bodily condition adversely affected by nervousness. We do not believe that one night in a police cell would make great difference to such a man's troubles.

We trust the press will continue to make public the psycho-somatic difficulties of the bookie, and that physicians will hesitate and proceed with care and discretion, not merely lending their aid to get these men out of unpleasant situations.

DIABETES DETECTION PROGRAM

Within the next week members will receive from the Society's committee on diabetes an important notice of the program to be carried forward this year during the week of October 10 to 16 when the American Diabetes Association sponsors a national educational program on diabetes detection.

The active support of every Fellow of the Society will be needed to make this week a real service to the public in our State. The local plan calls for the making of urine examinations without charge, on as many patients as possible during the seven day period. Each physician will be asked to send to the committee a report of such examinations for statistical purposes.

In addition to the examinations by physicians, free testing of urine will be carried out at the various hospitals and other laboratories, and in each instance in which a positive test for sugar is found the patient will be referred for further study to the physician whom he has designated as his doctor, and that doctor will be notified regarding the laboratory examination.

The program is a challenge to the physicians, and it offers an opportunity to demonstrate anew the continuing willingness of the medical profession to foster preventive medicine for the good health of all.

Report of

THE AMERICAN ACADEMY OF PEDIATRICS

Study of Child Health Services in Rhode Island

Introduction

THE STUDY OF CHILD HEALTH SERVICES in the United States is a project of the American Academy of Pediatrics, an association of physicians practicing pediatrics. For reasons of efficiency the central office was in Washington, D. C. under the direction of Dr. John P. Hubbard. Expert full time medical and statistical personnel were "loaned" to serve under Dr. Hubbard by the two government agencies most concerned, the Childrens Bureau (a staff headed by Dr. Katherine Bain) and the U. S. Public Health Service (a staff headed by Dr. Charles F. Williams, Jr. and Mrs. Maryland Y. Pennell.)

Schedules were prepared to be filled out by physicians and dentists, voluntary and official community health agencies, and all hospitals admitting children or maternity cases.

In Rhode Island for the distribution and collection of the schedules, a study committee was formed consisting of Dr. E. A. McLaughlin, State Director of Health, Dr. Francis V. Corrigan, Director of the Children's Division of the Health Dept., Dr. Earl F. Kelly and Dr. John Langdon as executive secretary, Mrs. Elizabeth Campbell served as Dr. Langdon's secretary. Dr. William P. Buffum served as chairman.

In the job of distributing the schedules, getting them filled out correctly, and collecting them we had a great deal of help from the Health Department of the State. Contributions were made by the Rhode Island Foundation, the Infantile Paralysis Foundation, the Mary Dexter Fund, the Providence Medical Association, the Rhode Island Medical Society, and the Rhode Island Tuberculosis Association.

These schedules were analyzed and tabulated at the central office of the American Academy of Pediatrics, and then the tables were sent back to the committees in the states for publication.

For presenting these statistics and for comment on their significance, the Rhode Island members of the Academy of Pediatrics considered themselves a committee to complete this work. The actual writing of the report was done by four men, who conferred with the committee several times, so that the full responsibility for this report falls on the Rhode Island Pediatricians, members of the Academy. The four men who did the heaviest part of the work and to whom we are especially grateful are Dr. Hugo V. Hullerman of the Rhode Island Hospital, Mr. Harold Edelston of the Rhode Island Community Chests, Dr. Eric Denhoff, one of our members, and Dr. Jacob Wisan of the Samuels Dental Clinic.

In studying the material we have had valuable advice from Dr. Joseph Smith, Superintendent of Health of the City of Providence, Dr. Francis V. Corrigan, Chief of the Division of Child Health of the Rhode Island Department of Health, Miss Nellie Dillon, Director of the Providence District Nursing Association and many others.

Certain terms are used in the study that need definition. Counties are classified as Metropolitan if there are cities or towns within them with a population of 50,000 or more. This classification includes Providence, Kent, Bristol, and Newport counties. Adjacent counties are those contiguous to metropolitan counties. Of these Rhode Island has one, Washington county.

In the Rhode Island report some figures are given in reference to the cities and towns. A metropolitan city or town is one that has a population of 25,000 or more, an adjacent town is one that is contiguous to a metropolitan district, and a rural town is one which is not so contiguous.

The Rhode Island members of the Academy of Pediatrics who are responsible for this report are listed below.

DR. REUBEN C. BATES
DR. WILLIAM P. BUFFUM
DR. HAROLD G. CALDER
DR. OSCAR Z. DASHEF
DR. ERIC DENHOFF
DR. BANICE FEINBERG
DR. STANLEY S. FREEDMAN
DR. ISADORE GERSHMAN
DR. FRANK J. JACOBSON
DR. EARL F. KELLY
DR. MAURICE W. LAUFER
DR. ROBERT M. LORD, *chairman*
DR. HERMAN B. MARKS
DR. HENRY E. UTTER

The Economic Health Setting of the Child

The average per capita buying income for the nation in 1944, 1945 and 1946 was $1141. Rhode Island with $1419 ranked seventh among the states, and was in second place among the New England States (Connecticut with a per capita buying income of $1579 was in first place nationally). The only other New England state above the national average was Massachusetts with $1289 ranking twelfth.

PER CAPITA BUYING INCOME 1944-1946

State	Value	Rank
Rhode Island	$1419	7
Connecticut	1579	1
Massachusetts	1289	12
Maine	1060	25
Vermont	996	31
New Hampshire	899	36
Highest of 48 States	1579	1
Lowest of 48 States	559	48
Average of 48 States	1141	.....

Although it is interesting to the people of Rhode Island to compare its status with the New England group of states, this section stresses comparison with Massachusetts and Connecticut and with the highest, lowest, and average of all 48 states.

It is customary in these surveys to use five classifications: greater metropolitan, lesser metropolitan, adjacent, isolated semi-rural and isolated rural. It has been repeatedly pointed out that 37%, or 13 million, of the nation's 36 million child population, live in isolated counties, to which advantages of metropolitan areas are not accessible.

Rhode Island has no isolated counties. Rhode Island is peculiar in this respect, in that all of its population is classified as living in lesser metropolitan or adjacent areas.

Furthermore, approximately 95% of the child population resides in lesser metropolitan districts in Rhode Island, and only about 5% in areas adjacent to lesser metropolitan districts.

This fact combined with Rhode Island's favorable per capita buying income, makes it difficult to determine comparable states for comparative study. To some extent, this peculiarity is further enhanced in that the only two states adjacent to Rhode Island are Connecticut and Massachusetts, both of which are in the top 25% of states as to per capita buying income, and both of which have a very high proportion of their child population living in the greater metropolitan-lesser metropolitan areas (Massachusetts 96%, Connecticut 82%).

The percent of the population in the United States in 1940 which comprised children under 15 years of age was 25.0. Rhode Island with 22.1 ranked 40th among the states in this respect.

Infant mortality rates are expressed in terms of deaths per thousand live births, exclusive of stillbirths. Rhode Island compared favorably with other states, ranking in 8th place with a rate of 29.5.

It is evident that the Rhode Island rate of 36.4 does not begin to approach Connecticut's 29.5 for lesser metropolitan areas when these rates are taken over the 5 year period from 1941 to 1945. For the 5 year period Rhode Island ranked 19th among the states with an infant mortality rate of 36.4. Ranking first was Connecticut with a rate of 30.0.

An epidemic of diarrhea of the newborn in one large hospital with a high mortality rate in 1942 materially affected these figures. In 1945, for example, there were 405 deaths in 13,623 births, an

Selected Data (Per capita Income, % children of total pop ulation, Infant mortality, Maternal mortality, % live births in hospitals) for 3 states, and U. S.

	NEW ENGLAND STATES						48 STATES		
	R. I.	Rank	Mass.	Rank	Conn.	Rank	Highest	Lowest	Average
Per capita income, 1944-46	1419	7	1289	12	1579	1	1579	559	1141
% children of total population, 1940	22.1	40	21.8	41	21.2	43	34.5	19.8	25.0
Infant mortality, 1946	29.5	8	31.6	20	27.8	3	27.2	78.2	33.8
Infant mortality, 1941-45 by county group, total	36.4		33.2		30.0				
GM	.....		32.5		30.0				
LM	36.4		34.6		29.5				
A	37.9		35.1		31.8				
IS	.....		30.4		.....				
IR	.....		37.3		.....				
Maternal mortality, 1941-45 by county group, total	18.7		21.0		16.2				
GM	.....		21.1		15.0				
LM	18.1		20.9		16.1				
A	28.5		21.5		17.9				
IS	.....		19.9		.....				
IR	.....		20.7		.....				
% live births in hospitals									
1935	59.8		59.5		74.5				36.9
1946	95.2	13	97.2	4	98.9	1			82.4

continued on next page

infant mortality of 29.7 per 1000 live births.

Maternal mortality rates are expressed in terms of deaths per ten thousand live births. Rhode Island compared favorably with the national maternal mortality rate and with the New England States.

Nevertheless, during 1945 in Rhode Island 14 mothers died for every ten thousand live births; in Connecticut only 10 mothers died for each ten thousand births. For the five year period 1941-45, however, Rhode Island, though less successful than Connecticut, ranked 2nd among the New England States in the protection of maternal life and nationally was in 11th place, only ten other states having lower maternal mortality rates.

Rhode Island has made commendable progress in the hospitalization of women for delivery. Whereas, the national average shows 36.9% of live births in hospitals in 1935, progressing to 82.4 in 1946, live births in hospitals in 1935 in Rhode Island were 59.8% and in 1946, 95.2.

The attendants at the time of delivery in the more than 13 thousand live births in Rhode Island in 1945 were predominately medical. Nevertheless, 57 live births were not attended by physicians, 24 of these being attended by mid-wives and 33 having neither physicians nor mid-wives to assist.

Hospital Facilities and Services

A. General Hospitals

In order to have comparability for reports from the different states this section follows the pattern used by the report of "Child Health Services in North Carolina" by the American Academy of Pediatrics, printed as a supplement to the North Carolina Medical Journal, April, 1948. Many portions, except that the figures are for Rhode Island, have been taken from that report.

The general hospital, at its best, serves not only as a place where the sick may be given in-patient care, but also as a health center for the entire community with out-patient services, public health clinics, health education, and training for physicians and nurses. It has become a complicated and expensive instrument; but, without access to a good general hospital, no community is adequately equipped to fight against ill health.

1. Facilities and Services for Children (Other than newborn)

There are 16 general hospitals in Rhode Island caring for children; 6 of these have pediatric units, and 4 are in hospitals of 100-249 beds, 2 in hospitals with over 250 beds.

The general hospitals included in this study have 1946 beds, (of which 231 are set aside for children) or 11.6 per 1000 children. This is slightly less than 12% of all beds in general hospitals in the State.

In the following these data are compared with other states:

Admissions of children to general hospitals in Rhode Island totalled 7,350 during the year of study, giving an annual rate of 44 per 1000 children against 97.3 in the highest state. This is less than Massachusetts, Connecticut, and the average of 48 states. See table below. Over half (55%) of these were admitted to hospitals of over 250 beds and less than 11% to hospitals under 100 beds; (2% to hospitals under 25 beds). Nine of each 10 child admissions are in hospitals with pediatric units.

2. Newborn Care

At the time of the study there were known to be 553 bassinets and 21 incubators in the state. (Five hospitals failed to report on incubators.) Approximately 95% of all births in Rhode Island are in hospitals; almost 87% of hospital births are in

	NEW ENGLAND STATES			48 STATES		
	R. I.	Mass.	Conn.	Highest	Lowest	Average
No. per 1000 children						
Total beds	11.6	18.2	16.8	28.5	5.5	12.8
Ped. beds	1.38	2.25	2.05	2.40	0.21	1.20
Child adm.	44.0	71.4	67.0	97.3	25.6	51.4
% beds set aside for children	11.9	12.4	12.3	.....	.....	9.3
% of child adm. to hospitals *without separate pediatric units*	18	17	12	6	72	28
% of births in hospitals *without separate pediatric units*	11	24	16	11	64	29

Since 95% of the child population in Rhode Island resides in lesser metropolitan counties and the other 5% is in a county adjacent to lesser metropolitan counties, all of Rhode Island's pediatric beds may be considered readily accessible to the entire child population. In this, Rhode Island differs from most other states by having no isolated areas.

1. In this report the term "hospitals" is limited to those caring for children, including the newborn. No institution is included having less than 5 beds for regular in-patient care. Federally-owned hospitals are excluded.

2. Excluded from this report is the C. V. Chapin Hospital which although functioning as a general hospital was not included as such in the basic statistics. It accepts most of the hospitalized cases of contagious diseases. Addition of this hospital would increase the total beds by 265 and pediatric beds by 98, with corresponding changes in the table.

hospitals of over 100 beds; 4% are in hospitals with less than 25 beds. For the 12,603 births per year in general hospitals there were 110,802 days of hospital care, an average of 8.8 per birth.

3. Characteristics of Hospitals Caring for Children

Quality of medical or hospital care is difficult to measure. An effort was made in the study, however, to obtain answers to certain objective questions which provide a few indices of the quality of care provided in hospitals. The items include space, organization of the pediatric service, medical staff, nursing, special services, and certain accepted pediatric practices. These characteristics to some extent determine the quality of service a hospital can give.

The admission of children to hospitals with specified characteristics is shown below, in comparison with the U. S. average. The highest state average is 94; Rhode Island with 81.8 ranks 9th.

	Per cent of child admissions to hospitals (a) with specified characteristics	
	R. I.	U. S. Average
Separate pediatric unit	90.8	76.0
Graduate nurse on duty at all times in pediatric unit	90.8	62.7
Any House Staff	94.0	62.5
Clinical laboratory	100.0	89.9
Selected clinical laboratory services available (b)	82.3	81.1
Trained dietitian on Staff	92.1	80.4
Separate ward for infants other than newborn	22.5	54.3
Average percentage	82	72.4

(a) Hospitals with 25 or more beds.
(b) Blood level for sulfonamides, sedimentation rate, blood culture and serum protein.

Newborn—A comparison is made of care for newborn in the following table:

	Percentage of hospitalized births occurring in hospitals with specified characteristics (a)	
	R. I.	U. S. Average
Any House Staff	93.8	59.8
Graduate nurse on duty at all times in newborn nursery	100.0	89.4
Room used exclusively for preparation of formulae	100.0	76.4
All milk mixtures sterilized for newborn	100.0	91.8
Nursery for full-term sick or suspect newborn, separate from well	53.1	39.0
Average percentage	89.4	71.6

(a) Hospitals with 25 or more beds.

Rhode Island compares favorably with the U. S. average and is the lowest of all the states in per cent of births in hospitals lacking certain important characteristics, a remarkable accomplishment.

The Very Small Hospital — Although only 1.7 per cent of child admissions and 4.1 per cent of births occur in hospitals having fewer than 25 beds, the deficiency of facilities in such hospitals in comparison with larger ones, as indicated in the following table, points to one of the problems in providing the public with adequate facilities.

	Per cent of hospitals with specified characteristics	
	6 with fewer than 25 beds	10 with 25 beds and more
Registerd by AMA	0	100.0
Clinical laboratory in hospital	16.7	100.0
Separate nursery for newborn only	100.0	100.0 (a)
Graduate nurse on duty at all times in newborn nursery	66.7	100.0 (a)
With pediatric unit	0	60.0

(a) Includes 9 instead of 10 hospitals. The 10th has no obstetrics and therefore no newborn nursery.

4. Facilities for the Care of Acute Poliomyelitis

Of the 10 general hospitals with 25 or more beds, 3 admit acute poliomyelitis cases for diagnosis and one of these provide care. There is also a large communicable disease hospital that accepts these patients.

SUMMARY:—

1. The survey reveals that Rhode Island has no problems with respect to distribution of facilities in relation to isolated areas.

2. Rhode Island ranks well in comparison to national averages of all states in the per cent of hospitalization of births, and in the quality of facilities for care of child patients and newborn. Twelve states have a higher percent of live births occurring in hospitals.

3. Rhode Island is relatively deficient in number of beds for child care and in the annual admission rate of children to general hospitals, compared to other somewhat comparable states such as Massachusetts and Connecticut.

Whether or not the relatively low number of beds set aside for children in general hospitals and the relatively low annual admission rate to general hospitals are significant to the health of children in Rhode Island is not clear. This study is concerned with facilities, rather than with child morbidity needing hospitalization. As seen in the section of this report on "The Economic-Health Setting of the Child," infant and maternal mortality rates in Rhode Island are reassuring.

B. Out-Patient Services for Children

Of the state's 16 general hospitals caring for children, 9 operate out-patient departments that admit children. As estimated 6138 visits by children were made to these clinics. Only 4 had separate pediatric clinics.

This number does not indicate the extent of this special service for children, since adult specialty clinics also see children.

continued on next page

Physicians in Private Practice

THE Study of Child Health Services included an analysis of the service being rendered to Rhode Island's children by general medical practitioners, pediatricians, and other specialists.

This part of the Study was designed to disclose the adequacy of the medical care rendered by physicians to the children in the State. Because absolute standards for measuring adequacy of medical care have not been developed, reliance must be placed upon comparisons with other states. Such comparisons are of limited value because it is not certain that the level of medical care is satisfactory in those states which are used as the standard to measure adequacy.

The data on physicians in R. I. will be compared with figures for the United States and for nearby Massachusetts and Connecticut. The latter two states were chosen for comparison because of geographical proximity and socio-economic similarity to Rhode Island.

1. The supply of physicians in R. I.

A count of physicians in the State in May, 1946 disclosed a total of 663 doctors in private practice, of which the great preponderance were general practitioners. There were only 32 pediatricians in R. I. at that time. (See Table 1.) Pediatricians, for purposes of this study, were defined as physicians who themselves reported that their practice is limited to the care of children.

As might be expected, nine-tenths of all physicians were located in cities and towns of 10,000 or more population. The concentration in the larger centers of population was almost complete in the case of pediatricians and other specialists, while general practitioners showed much less of a tendency to locate in population centers. A more detailed discussion of urban-rural differences follows later in this report.

Only a fraction of the State's pediatricians and other specialists were certified by American Specialty Boards in 1946. In the case of pediatricians, the proportion certified was only one-fourth of the total.

The supply of physicians in R. I., when related to the number of children in the State, produces a ratio of one physician for every 252 children. This represents a better supply in R. I. than in the U. S. as a whole, but a less adequate supply than in Massachusetts and Connecticut.

TABLE 1

Physicians in private practice in Rhode Island and in Rhode Island cities and towns of 10,000 and more population, by type of specialty and certification by American Specialty Boards, as of May 1946.

Classification of physicians	State Total	Cities of 10,000 or more population		Certified by Am. Sp. Bds.	
		Number	% of State total	Number	% of State total
Physicians — total	663	590	89.0	.....	.....
General practitioners[1]	415	351	84.6	.....	.....
Pediatricians	32	31	96.9	8	25.0
Other specialists:					
Internal medicine[2]	50	48	96.0	16	32.0
Allergy	0	0	0	0	0
Psychiatry & neurology	15	14	93.3	6	40.0
Surgery (exc. othopedic)[3]	64	62	96.9	10	15.6
Othorpedic surgery	14	14	100.0	2	14.3
Obstetrics & Gynecology	23	22	95.7	11	47.8
Ophthalmology & otolaryngology	33	32	97.0	18	54.5
Radiology & anaesthesiology[4]	17	16	94.1	7	41.2

[1] 28 physicians did not report whether they limited their practice to one specialty and were assumed to be general practitioners.

[2] Includes dermatology, syphilology, cardiovascular disease, gastroenterology, and tuberculosis.

[3] Includes urology, plastic surgery, neurological surgery, and proctology.

[4] Includes clinical pathology and bacteriology.

TABLE 2

Number of Children per Physician

	One physician for
U. S. Average	308 children
Rhode Island	252 children
Massachusetts	202 children
Connecticut	227 children

Children per Pediatrician

	One pediatrician for:
U. S. Average	10,299 children
Rhode Island	5,224 children
Massachusetts	5,360 children
Connecticut	4,740 children

Pediatricians practicing in R. I. are few in number in relation to the total number of physicians available. There are twenty times as many children for each pediatrician in the State as there are for each physician. It becomes obvious, then, that there are not enough pediatricians to care for all children in the State, and therefore physicians other than pediatricians must carry the greater share of medical care for children. R. I. has one pediatrician for every 5,224 children. This ratio is about twice as favorable as the U. S. average of one pediatrician per 10,299 children. It also shows a slightly better supply of pediatricians in proportion to the child population than was found in Massachusetts but a smaller supply proportionately than in Connecticut. Furthermore, R. I. ranks third among

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STUDY OF CHILD HEALTH SERVICES IN RHODE ISLAND

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all 48 states in the number of children per pediatrician; all of which indicates that the number of pediatricians in the State, however small, is nevertheless indicative of a supply which compares very favorably to that in other states.

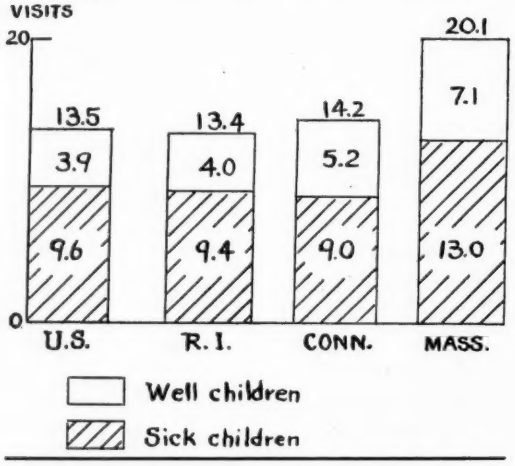
II. The volume of medical care in private practice

The volume of physicians' medical service to children compares favorably to the U. S. average, but fares less well by comparison with Connecticut and Massachusetts (Chart 1). Moreover, more detailed examination shows that R. I. ranks 26th from the top among the 48 states in the number of physicians' child visits per day per 1,000 children. This is a disappointing showing in view of the relatively high per capita income of R. I.

Furthermore, there is proportionately less emphasis on private care to well children in R. I. than in either Connecticut or Massachusetts. In R. I., only 30 per cent of all physicians' child visits were for well children, while in Connecticut it was 37 per cent, and in Massachusetts, 35 per cent.

CHART 1

Physicians Child Visits Per Day Per 1,000 Children — 1946



The great preponderance of medical care to children is given by general practitioners (Table 3). Over two-thirds of all physicians' visits to children on an average day in R. I. is made by this non-specialist group. The remaining one-third of visits to children are almost evenly distributed between pediatricians and the group of "other specialists."

Pediatricians, however, give a disproportionate amount of service to well children. They made only 10 per cent of the visits to sick children, but 30 per cent of the visits to well children.

TABLE 3

Visits per day for sick and well children by general medical practitioners, pediatricians and other specialists in Rhode Island, 1946.

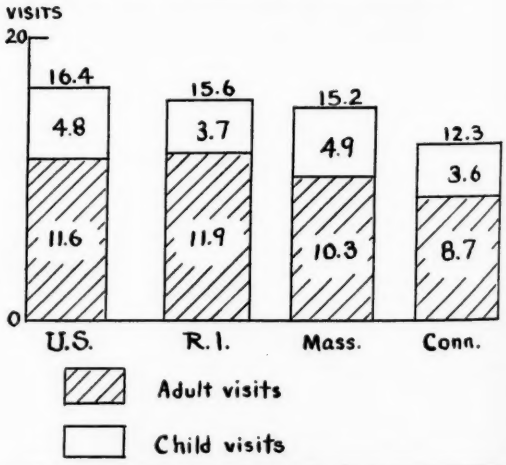
	Total visits for sick and well children		Visits for sick children		Visits for well children	
	No.	%	No.	%	No.	%
By all physicians	2236	100.0	1561	100.0	675	100.0
By general practitioners	1531	68.5	1116	71.5	415	61.5
By pediatricians	360	16.1	157	10.1	203	30.1
By other specialists	345	15.4	288	18.4	57	8.4

Although general practitioners provide most of the medical care to children in R. I., care of children represents only a fraction of their work. This fact is disclosed by the finding that only one-fourth of the visits made per calendar day by an average general practitioner were child visits.

The total patient load for general practitioners, as measured by visits per practitioner per day, was greater in R. I. than in either Massachusetts or Connecticut, but lower than the U. S. average.

CHART 2

Visits Per General Practitioner Per Calendar Day



General practitioners in R. I. are, on the whole, better equipped in terms of training to treat children than are those in other states. Only three states, (Delaware, New York, Connecticut) had a larger proportion of general practitioners with one month or more of hospital training in pediatrics. The proportion in R. I. was nearly two-thirds of all general practitioners, as compared to just a little more than one-half for the U. S. as a whole.

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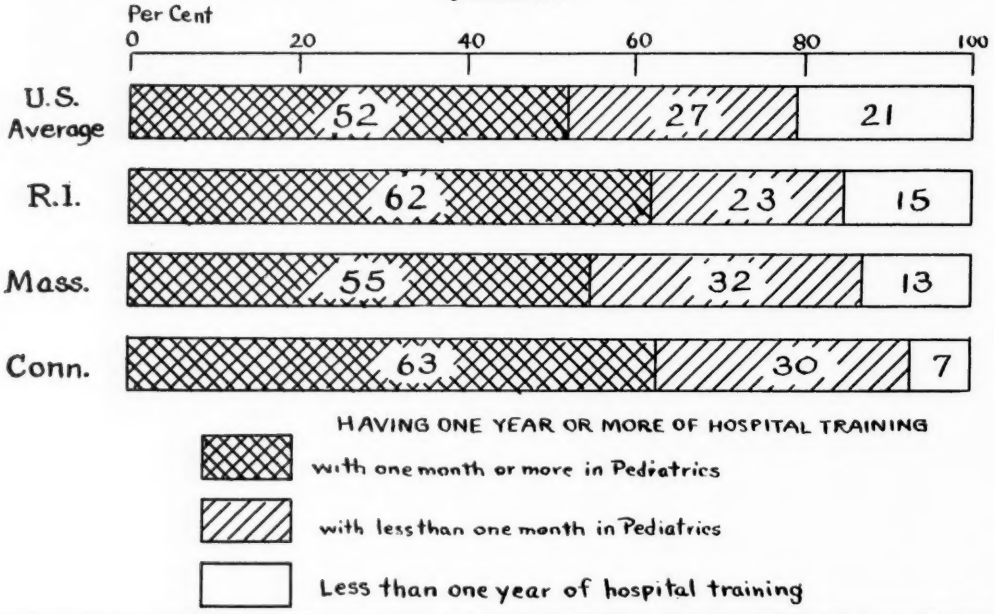
STUDY OF CHILD HEALTH SERVICES IN RHODE ISLAND—*continued from page 500*

CHART 3

Proportion of General Practitioners With Hospital Training (Adjusted to age distribution of all general practitioners)



III. Urban-rural distribution of physicians

The small size and compactness of Rhode Island lends a different meaning to the term "rural" when applied to sections of the state than when it is used in reference to areas of large Western states. No part of Rhode Island is so completely isolated that the services of physicians in urban centers could not be accessible. However, it cannot be denied that residents of rural R. I. areas do not have as easy an access to physicians' offices located in urban areas as do urban dwellers. Urban-rural differences do exist in Rhode Island, but to a smaller degree than in larger states.

The division of the state for study purposes into urban, adjacent, and rural cities and towns was done on the basis of the physicians' office location. The data given below would have been more significant if it had been compiled on the basis of children's residence.

In examining the difference between urban, adjacent, and rural municipalities attention will be focused on the urban and rural classifications; the adjacent category will receive less attention on the assumption that cities and towns in this category, being adjacent to urban municipalities, would have available to their residents all the facilities of the neighboring urban center. Distances are so short in R. I. that if any urban-rural differences can be said to exist, they are likely to exist only between the urban and the rural classifications of cities and towns.

Doctors practicing in urban municipalities greatly outnumbered those in rural areas, as might be expected. However, the only real discrepancy between the availability of urban and rural physician is in the number of pediatricians and other specialists. The supply of general practitioners in R. I.'s rural areas compares favorably with that for urban areas when considered in terms of the number of children to be served. The number of gen-

TABLE 4

Availability of Physicians in Rhode Island, by Urban-Rural Classification of 39 Cities and Towns

Urban-rural Classification	Total		General Practitioners		Pediatricians		Other Specialists	
	No.	Per 100,000 Children	No.	Per 100,000 Children	No.	Per 100,000 Children	No.	Per 100,000 Children
Urban	570	464.5	331	269.7	31	25.3	208	169.5
Adjacent	36	166.3	34	157.1	0	.....	2	9.2
Rural	57	250.0	50	219.3	1	4.4	6	26.3
Total State	663	396.6	415	248.3	32	19.1	216	129.2

eral practitioners per 100,000 children was 219.3 in rural towns, as compared to 269.7 in urban municipalities, a difference which cannot be considered alarming. (Table 4)

It must also be kept in mind that although pediatricians and other specialists were in short supply in rural towns, residents of these towns are not cut off from their services. Of course, access to these specialists may not be as easy or convenient as it is to urban dwellers, but no resident of the State is more than 40 miles distant from the office of a specialist.

The relatively proportionate distribution of general practitioners between urban and rural cities and towns is of foremost significance, since it has been shown earlier that general practitioners assume the large share of medical service to children. The fact that no wide differences were disclosed between urban and rural places in R. I. indicates that children in R. I.'s rural areas have sufficient medical resources at hand for emergency situations. However, it cannot be denied that private practice in rural towns is of smaller quantity than in urban places, especially in regard to the services of specialists.

However, these conclusions about the rural supply of physicians must remain tentative, pending further investigation. It must be conceded that all the facts are not available. Further investigation is needed into the number of physicians' visits received by children resident in rural places, the medical qualifications of the physicians making those visits and the extent to which urban specialists serve rural children. In the present study, tabulations of child visits were made according to the location of physicians' offices in either urban, adjacent, or rural municipalities; thus it is obvious that these data will merely reflect the office locations of physicians. For that reason, the figures have not been reproduced here, though they were tabulated by the national study.

Dentists

Private Practice

At the time of the study (January 1946) there were 339 dentists in private practice in Rhode Island to care for the 167,177 children (under 15)*. Eight dentists reported that they specialized in orthodontia, two reported specialization in oral surgery and four in prosthetics. Dentists reported that 25 per cent of their patients were children and that 21 per cent of their time was spent on children.

* While there were 167,177 children under 15, it should be noted that dental treatment is rarely required by children under 2½. In Rhode Island approximately 135,-142 children (2½-15) would require regular dental care. However, for the sake of uniformity with other state surveys, the total population under 15, (167, 177), has been utilized in this study.

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In 1940, Rhode Island with one dentist per 1892 population ranked twentieth among the 48 states. Rhode Island did show differences in the number of available dentists in different types of districts.

The whole state showed 202.8 dentists per 100,000 children

Urban cities and 1 large town showed 230.6 dentists per 100,000 children

Adjacent towns showed 78.5 dentists per 100,000 children

Rural towns showed 109.6 dentists per 100,000 children.

In the state as a whole there was a ratio of 493 children per dentist—this is better than the average for the United States which was 548.

The number of dentists per 100,000 children in the various Rhode Island districts was:

Whole State 202.8 per 100,000 children

Metropolitan counties 205.1 per 100,000 children

Adjacent county 163.3 per 100,000 children

Of the 339 dentists, four were female, and six were non-white; 165 or 49 per cent were under 45; 123, or 36 per cent were between 45 and 65; 51 or 15 per cent were 65 or over.

Only 11 dentists reported postgraduate training in pedodontics. Sixteen dentists reported having a hygienist; 139 dentists reported having an office assistant.

The number of visits for dental care on one day was 508.4 per 100,000 children, as compared to 320 for the average among the 46 states reporting. Rhode Island rated sixth among the states. Cities of Rhode Island reported 623.3 visits per 100,000 children. Adjacent towns reported 217.2 visits per 100,000 children. Rural towns reported 166.6 visits in an average day.

Community Dental Services

For the purpose of this study a community dental service was defined as one giving dental care other than examinations. Community dental clinics in Rhode Island are conducted by schools, hospitals, and the Rhode Island State Department of Health. In a few instances, communities arrange with private dentists for dental service for children.

The total number of children to visit dental clinics was reported as 11,407. This number constituted 7 per cent of the children in Rhode Island. For the country as a whole, it was reported that 2 per cent of the children obtained treatment in dental clinics.

Only 13 of the group treated in dental clinics in Rhode Island were of pre-school age.

Dental clinics for children were reported in all the urban municipalities. 9 rural towns and 1 adjacent town reported no dental clinic in their areas.

Dental clinics conducted by official agencies reported 6,826 dentist hours, while volunteer agencies, 954 dentist hours. In Rhode Island community dental clinics 46 hours (annual rate) were provided for dental service per 1,000 children under 15. There were 68 patients and 375 examinations per 1,000 children. The average number of hours for 1,000 children in the United States was 27. Rhode Island has a ratio of fillings to extractions of 1.77. The average for the United States was 2.72. This ratio is considered a good index of quality of care. The higher the ratio of fillings to extractions, the better. The low ratio of fillings to extractions in Rhode Island may be partly due to the high rate of dental caries in this state.

A marked disparity in treating children is found in rural towns and adjacent towns when compared to urban areas. Both in private offices and community clinics, the rural and adjacent towns show a poorer record than did the urban cities.

Children Visiting Dentists in an Average Day per 100,000 Children

District	Number of visits in one day to private offices	Number of visits to dental clinic in a day	Total children visiting dentist in one day
Whole State	508.4	50.8	559.3
Urban cities and one large town	623.3	57.9	681.2
Adjacent towns	217.2	37.	254.2
Rural towns	166.6	26.3	192.9

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Report of

THE AMERICAN ACADEMY OF PEDIATRICS

Study of Child Health Services in Rhode Island

Community Health Services

COMMUNITY HEALTH SERVICES

Introduction

RHODE ISLAND, like many other states, has recognized that the bulwark of superior child health in the community is the health service program. The interest in child health has been shown by the fact that there are at least 80 agencies at the state and local levels that are concerned with the health and welfare of its 167,177 children under fifteen years of age. These services include direct medical supervision in the form of well-child conferences, mental hygiene care, rehabilitation for the physically handicapped, public health nursing, school health supervision, communicable disease control, and dental care, as well as child care for adoption, foster home placement, day nursery schools, delinquency, family casework service, group work and recreation.

Rhode Island is essentially an urban state. The majority of the population live within easy access of the main medical center. Therefore, medical care for the ill child is easily accessible to most. In addition, because of its small area, any child in the state who requires medical treatment is within short traveling distance from centers of population. Here there are several hospital, diagnostic and treatment centers that offer modern service to groups at all economic levels.

However, the multifaceted coast line tends to isolate some communities from the urban centers. The people in these outlying districts find traveling inconvenient to the medical centers, particularly for well-child care. This accentuates the natural tendency to keep the routine medical supervision of child health in the state within the local level.

Geographic Factors in Community Health Services

In Rhode Island, as in the remainder of the United States, the basic unit for community health services is the private practitioner. According to this survey, he gives the preponderance of medical service to children every day, treating 14.8 per thousand per day. Of the total number of children under medical care per day per thousand, 0.6 were treated in clinics or hospital out-patient departments devoted to community health services. Although this figure appears small, it is higher than the average for the United States at large (0.4) and Connecticut, but less than Massachusetts—the two states in New England we have selected for comparison. The reason for this selection is that both of these states are comparable in that they are large urban industrial areas.

As in most reports of a statistical nature, justice is not done to those persons and agencies who are doing a splendid job in community health planning. Rather, this report will tend to point out deficits in quantity and quality of child-health services in our state. However, the report will not lose sight of the fact that the majority of community health services depend upon the voluntary contributions in time and energy of the private physician, and upon the professional workers, who have never received remuneration commensurate with their contributions to welfare of the people of this state.

Organization of Community Health Services

In Rhode Island, community health services for children are furnished by both official and voluntary agencies. The State Department of Health is the primary official agency concerned with child

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TABLE V — Number of communities without health services for children by official and voluntary agencies, by location, during one year for Rhode Island.

Location	Total Number of Communities	Well-Child Conferences	Mental Hygiene	Public Health Nursing Services	PHYSICALLY HANDICAPPED			School Services
					Orthopedic	Rheumatic Fever	Speech Vision Hearing	
Cities and Large Towns	8	2	4	0	4	3	8	0
Adjacent Towns	10	4	10	0	6	8	8	0
Rural Towns	21	15	21	0	16	19	8	3

STUDY OF CHILD HEALTH SERVICES IN RHODE ISLAND

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health. It is so set up that its 14 divisions directly or indirectly include every phase of the basic health requirements of the people. Similarly, the State Department of Social Welfare has several divisions that are primarily concerned with child health. In addition, many of the municipalities in the state maintain health agencies for children through the health, education, welfare, and recreational departments.

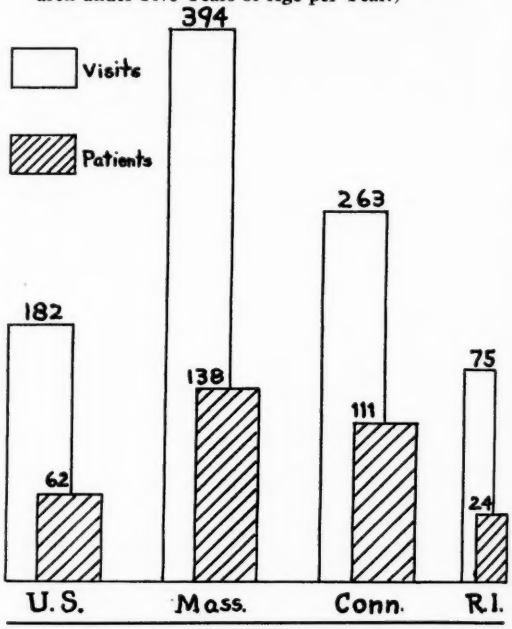
There are at least 58 voluntary medical and welfare agencies that supplement the child health care program in this state. Amongst these primarily concerned with medical problems of children, there are at least 13 state-wide organizations, in addition to 8 pediatric out-patient departments held by voluntary general hospitals. (See Chart IV) Also, there are several state-wide casework, recreational, and fund-raising agencies that are concerned with the same problems. In addition, there are several civic and social organizations interested in child health. At the local level there are several agencies that are organized to care for community or county needs.

This part of the report is primarily concerned with seven phases of community health services for children in Rhode Island. These are: well-child conferences, communicable disease control, mental hygiene services, services to the physically handicapped, public health nursing, and school health services. Table I summarizes the availability of community health services, official and voluntary, for children during one year in Rhode Island.

Well-Child Conferences

Rhode Island ranks 31st among the 48 states on the basis of visits to well-child conferences, and 38th on the basis of patients. There are only 24 children per thousand per year attending the well-child conferences. This figure is lower than the average for Massachusetts and Connecticut as well as for the average of the whole country. (See Chart V) The explanation for this small attendance may be that these children are seen by private

CHART V — A Comparison of Rate of Service in Well-Child Conferences in Rhode Island with the Average for the United States and Comparable Urban New England States. (Rates per 1000 children under Five Years of Age per Year.)



physicians, but on the other hand, the statistics available do not seem to bear this out. Of the total number of children who attended well-child conferences, 67% were infants and 31% were of the preschool age. Of the visits reported by the clinics, 79% were made by infants who average 3.4 visits per year. These clinics are all held by official agencies and are reported only in the cities and one large town of the lesser metropolitan area. Six of these eight cities and towns reported well-child conferences (Warwick* and Woonsocket did not report them). The majority are held in two cities: Providence and Central Falls. In the remainder of the state, southern Rhode Island seems to be the main area which lacked these services. (See Table VI)

*Warwick now has a well-child conference.

CHART IV — ORGANIZATION OF AGENCIES GIVING HEALTH & WELFARE SERVICES TO CHILDREN

OFFICIAL	*VOLUNTARY*
CHILD CARE	
State Department Health* 14 Divisions State Dept. Soc. Welfare, Child Div.* Div. Public Assistance Exeter School State Home and School	Child Service* Children's Friend Society* Dioceses Bureau Social Service* Jewish Family & Children's Service* Lakeside Home* Providence Floating Hospital Sophia Little Home* Watchman's Industrial School* Day nursery schools and children's homes; approximately 20, throughout the state.
CLINICS**	
HEALTH DEPARTMENTS Central Falls, Newport, Pawtucket, Provdence, State R. I., Warwick GENERAL HOSPITALS* Charles V. Chapin SCHOOL DEPARTMENTS Providence, No. Providence, Newport, So. Kingstown, Woonsocket	DISTRICT NURSING ASSOCIATIONS 16 agencies hold clinics at local levels. GENERAL HOSPITALS Pawtucket Memorial Miriam Newport Rhode Island St. Josephs Roger Williams South County Westerly
MENTAL HYGIENE & DELINQUENCY	
R. I. Dept. Social Welfare* R. I. Juvenile Court* Public School Clinics Providence, Newport Charles V. Chapin Hospital* Providence Police Department	Child Guidance Clinic* Emma Pendleton Bradley Home*
REHABILITATION OF HANDICAPPED	
State Department Health* Dv. Services Crippled Children Div. Maternal & Child Health State Department Social Welfare* Bureau for Blind	Children's Heart Assoc.* Crippled Children & Adults* Nat. Foundation Inf. Paralysis* R. I. Infantile Paralysis*

*State-Wide Organization

**Well-child, Immunizations, General Medical, and Public Health Clinics

continued on next page

TABLE VI — Summary of Well-Child Conferences in Rhode Island

Location	Type of Agency	SESSIONS: No. of Centers	SESSIONS: Total	SESSIONS: Infants Only	SESSIONS: Pre-School Only	SESSIONS: Mixed	PATIENTS: Total	PATIENTS: Infants Only	PATIENTS: Pre-School Only	PATIENTS: Not Reported Separately	VISITS: Total	VISITS: Infants Only	VISITS: Pre-School Only	VISITS: Not Reported Separately	No. Visits Per 1000 Children Under 5 Years	No. Patients Per 1000 Children Under 5 Years
Whole State		30	783	62	0	721	1563	1118	403	42	4775	3816	876	83	24.4	745
Urban Cities and Large Towns																
Cent. Falls	Off.	2	31			31	69	62	7		180	170	10			
Cranston	Vol.	1	12	12			22	22			74	74				
E. Prov.	Vol.	1	81			81	176	122	54		398	305	93			
Newport	Off.	1	19			19	57	29	28		224	70	154			
Newport	Vol.	1	50	50			84	84			285	285				
Pawtucket	Vol.	1	15			15	40	40			357	357				
Providence	Off.	10	459			459	782	564	218		2489	2058	431			
Adjacent Towns																
Barrington	Off.	1					45	31	14		78	50	28			
Lincoln	Off.	2					14	9	5		29	19	10			
Middletown	Vol.	1					17	8	9		39	26	13			
No. Prov.	Vol.	1					24	16	8		37	29	8			
Tiverton	Vol.	1					41	27	14		70	50	20			
W. Warwick	Off.	1					28	20	8		95	64	31			
Rural Towns																
Bristol	Off.	1					29	26	3		65	60	5			
Lit. Compton	Vol.	1					20			20	20			20		
Portsmouth	Vol.	1					29	18	11		102	75	27			
Scituate	Off.	1					26	15	11		54	34	20			
Smithfield	Vol.	1					22			22	63			63		
Warren	Vol.	1					38	25	13		116	90	26			

Practices in a well-child conference consist of advice by a physician regarding nutrition, care and training. There were 247 sessions by agencies with a nutritionist on the staff. Voluntary agencies more frequently had a nutritionist on the staff, furnishing 77% of sessions, compared with 14% of sessions by official agencies. All of the agencies had public health nursing follow-up in the home.

The physicians in attendance included health officials, pediatricians and general practitioners. Health officials were present at 11% of the sessions, pediatricians 44.1% and general practitioners 45%. Both pediatricians and general practitioners were classified as part-time paid. The former received an average remuneration of $4.23 per session, while the latter received $3.85. (See Table VII)

TABLE VII — Medical practices in well-child conferences during one year in Rhode Island.

Agent	No. Sessions in Attendance During One Year: Total No. Sessions	Health Off. in Attend.	Pediatrician Part-time Paid	Gen. Pract. Part-time Paid	% Sessions Physician in Attendance: Health Officer	Pediatrician	General Practitioner	Average Pay Per Day: Pediatrician	General Practitioner	Immunizations: No. Sessions Reporting	% Sessions Giving Immunizations: Smallpox and Diphtheria	Whooping Cough	Public Health Follow-up: No. Sessions Reporting	% Giving Serv	% Sessions Other Services: Consult. Serv. Advice to Mothers	Nutritionist	Psychologist or Psychiatrist
Total	925	100	409	416	10.8	44.2	45.0	$4.23	$3.85	783	58.6	0	765	100	100	32.3	0
Off.	617	34	379	207	5.5	61.4	33.1	4.80	3.75	561	81.8	0	543	100	100	14.0	0
Vol.	308	66	30	212	21.4	9.7	63.9	9.00	3.98	222	0	0	222	100	100	77.0	0

(Data not Available for Adjacent and Rural Towns)

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STUDY OF CHILD HEALTH SERVICES IN RHODE ISLAND

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Communicable Disease Control

In 1946, there were 167,177 children under the age of 15 years in Rhode Island.

By state law, the various cities and towns are compelled to offer vaccination to these children against smallpox free of charge. In this state, every child must be vaccinated against smallpox before entering school.

Diphtheria immunizations are scheduled regularly throughout the state, with the exception of Providence, by the State Department of Health. At these clinics, diphtheria immunizations and Schick testing are given. 5,581 children, (3.3% of total child population) the majority of school age, received complete immunizations against diphtheria, while 9,884 (5.9%) received the Schick test. During the war years, in all coastal areas of the state, the immunization consisted of diphtheria and tetanus toxoid combined.

During the spring and early summer months, pertussis immunizations are carried out in the large congested areas of the state. 1,043 children (0.6%) received either pertussis vaccine or the combined diphtheria-pertussis immunization.

In Providence, the City Health Department carries on its own immunization program. 4,715 children (2.8% of the total child population) who attended the clinics received diphtheria immunization, while 7,048 (4.2%) were Schick tested. 2,512 children (1.5%) also were vaccinated against smallpox.

These figures do not include immunizations done by the private practitioner in his office, which are by far the great majority.

Mental Hygiene Services

Rhode Island ranks ninth among the 48 states on the basis of patients and fourth on the basis of visits to mental hygiene clinics. The voluntary agencies carried the brunt of the child guidance

TABLE VIII — **Mental hygiene facilities available in Rhode Island. (These include any agencies associated with child guidance, psychiatric diagnoses and treatment, mental deficiency, and delinquency.)**

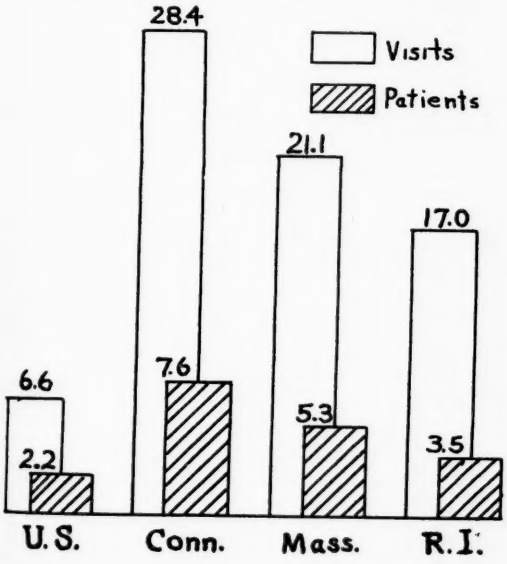
Name of Agency	Service		Type		Hospitals		Guidance Clinics	School Dept.	Welfare Agencies	Delinquency
	Local	State	Off.	Vol.	Gen.	Spec.				
Prov. City Hospital	x		x		x					
Butler Hospital		x		x		x				
E. P. Bradley Home		x		x		x				
Exeter		x	x			x				
State Mental Dis.		x	x			x				
Prov. Child Guidance		x		x			x			
Prov. Public Schools	x		x					x		
Newport Dept. Inst.	x		x					x		
R. I. Child Service		x		x					x	
Episc. Church Ass.		x		x					x	
R. I. Dept. Soc. Wel.		x	x							x
Training School — Boys		x	x							x
Training School — Girls		x	x							x
Prov. Pub. Schools	x		x							x
R. I. Juvenile Court		x	x							x

work in that they saw the greatest number of children during the course of a year. This care was given in cities only (Providence, Cranston, Warwick, Pawtucket) although referrals from the other cities and towns were made to the central agencies.

587 children received mental hygiene services during one year. (See Table VIII)

Although the rate of service is below the average for Massachusetts and Connecticut, it is above the national average. (See Chart VI)

CHART VI — A Comparison of Mental Hygiene Clinic Service in Rhode Island with the General Average of the United States and Massachusetts and Connecticut. (Data based on Number of Patients seen and visits per Year per 1000 Children.)



There are 15 agencies concerned with mental hygiene, behavior problems and delinquency of children in Rhode Island. Five are general or special hospitals, two are associated with the public school programs, one administers psychometric tests, one clinic is established for the diagnosis and treatment of emotional disorders of children, while the remainder are state or community agencies primarily concerned with the correction of delinquency. (See Table VIII)

In the light of current knowledge that there is an ever-increasing number of children who require mental hygiene guidance, the listing of all these agencies (although not included in this study) suggests the vast scope that a well-rounded mental hygiene program should include.

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STUDY OF CHILD HEALTH SERVICES IN RHODE ISLAND

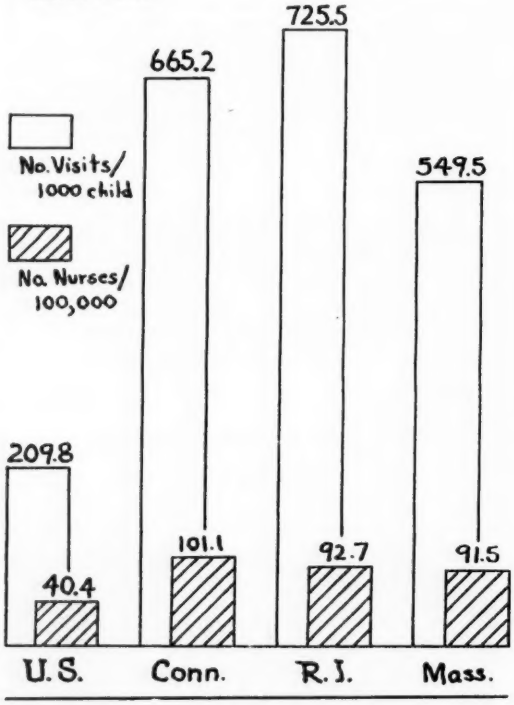
continued from preceding page

Public Health Nursing

Rhode Island rates second in full-time nurses in the nation, as well as second in child home visits. The survey indicates extensive coverage in cities and towns. Table IX summarizes community nursing service provided for children in Rhode Island. There are only 3 towns which have no local nursing service. These are: Exeter, Foster and West Greenwich. These are covered by the nursing services of the State Health Department.

Rhode Island ranks amongst the highest with full-time public health nurses per 100,000 children who give the largest number of visits per thousand children in the nation. However, 74% have had less than a year's training in an approved public health program. (See Chart VII)

CHART VII—Indices of Public Health Nursing Services to Children by Nation, and 3 Comparable New England States — Connecticut, Massachusetts, and Rhode Island.



Services to Physically Handicapped

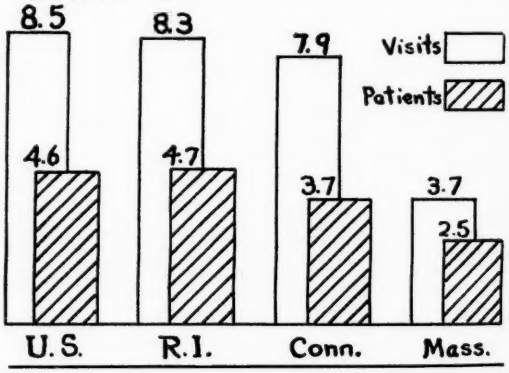
Services for the physically handicapped include clinics for rheumatic fever and for orthopedic, speech, vision, and hearing defects. In the nation, Rhode Island ranks twenty-fifth among the 48 states on patients seen, and twenty-first on number of visits.

During one year in Rhode Island, 794 children received services for the physically handicapped. The average was 1.7 visits per child at sessions held by official agencies. Most of these sessions had a complete attending staff. They were held for orthopedic and rheumatic fever disabilities only. There were no speech, vision, or hearing clinics reported. (See Table VII) The orthopedic sessions were held in four of eight cities; while the remainder of the state had only nine other clinics.* For rheumatic fever, five cities had clinics but only four other municipalities had similar facilities.

On an average day in Rhode Island, four (.01%) children of a total of 2,477 who received medical care that day either by a private physician, a clinic or hospital, received services for a physical handicap.

Comparing Rhode Island with the nation, and Massachusetts and Connecticut, Rhode Island is above the level of its New England neighbors, but its services are almost identical with the national figure. (See Chart VIII)

CHART VIII—A Comparison Study of Clinic Service for Physically Handicapped Children in United States, Massachusetts, and Rhode Island. (Study Based on Number Child-Patients and Visits per year per 1000.)



State-wide speech, vision, and hearing services are non-existent in this state. Similarly, epilepsy and mental retardation are not included as a physical handicap in the original survey. However, it is known that under the various departments of education some of these handicaps are being taken care of. Newport, Pawtucket, Providence, East Providence and Cranston all have speech teachers, but no medical supervision. Providence has a clinic arrangement supervised by an otolaryngologist and lip reading and testing technicians. Other cities have no speech services nor do the towns. Providence has a program for defective vision. Some of the adjacent areas are served by the program in

*However, children are brought in from surrounding towns to nearby clinics as recommended by physicians or agencies.

TABLE IX—Nursing services for children provided by public health agencies (official and voluntary) during one year.

	Nursing Staff		Full-time Nurses/ 100,000 Children	Home Visits to Children Per 1,000 Children	No. Counties with Complete Nursing Service**	Nurses with Preparations in an Approved Program Public Health Nursing		
	Total Nurses	Full-time Nurses				Number Reporting	Number One Year Training	Number Less Than One Year
Entire State	174	155	92.7	725.5	5 (100%)	112	30	82
Urban Counties	159	146	92.4	736.8	4	107	29	78
Adjacent County	15	9	98.4	529.9	1	5	1	4

*Exclusive of nurses employed by agencies giving only school health, industrial hygiene, tuberculosis, venereal disease services, and exclusive of nurses reported as supervisory.

**Assistance in well-child clinics, home visits for health supervision, bedside nursing care, and school services.

Providence. Other areas in the state do not have such service. Except for special classes in the Providence school system, no service is offered the retarded child. Similarly, only few clinics are held for the convulsive child.

Since the survey was made, one voluntary health agency has been created servicing the cerebral palsy on a demonstration basis. This center is located in Providence but serves the state. It is under medical supervision.

School Health Services

Rhode Island has an "A" classification for school health service.

In the entire state, 75 physicians (health officers included) served the school children who included most of the 103,108 children from the ages of five to fourteen years. This was an average of one physician per 1,587 children. In the metropolitan counties there were 65 physicians for 97,617 children—one per 1,501; while in the adjacent county, ten physicians serviced 5,491—one per 549. Thus, coverage statistically for rural areas was much better than in the more heavily populated areas. Fifty physicians were general practitioners, seventeen were health officers, seven were specialists in other groups than pediatrics; and one was a pediatrician. Official education agencies (school boards) employed the majority. In addition, 73 nurses, 58% of whom were employed full time, comprised the school nursing staff. Forty-three of the nurses were employed by the official educational agency. Our study shows no evidence as to the number of examinations the physicians made or as to the quality of the examinations.

TABLE X — Services at clinics for physical handicapped children during one year in Rhode Island.

	All Agencies	Official Agencies	Voluntary Agencies
No. Patients	794	794	0
No. Visits	1392	1392	0
No. Sessions	258	258	0
No. Visits to Clinics Reporting with Pediatrician on Staff	400	400	
No. with Nursing Staff	1354	1354	
No. with Auxiliary Staff*	1354	1354	

*Physiotherapist, social worker, or other professional staff (exclusive of physicians or nurses) employed full or part time.

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Report of
THE AMERICAN ACADEMY OF PEDIATRICS
Study of Child Health Services in Rhode Island
Recommendations

RECOMMENDATIONS

A. We recommend that our hospitals arrange for a better teaching program in pediatrics for internes and residents who intend to go into general practice. This recommendation is based on the fact that in the United States as a whole, as well as in Rhode Island, general practitioners spend 31% of their time taking care of babies and children, (although as a rule their basic pediatric training is not commensurate with their practice.)

B. Our hospitals require further development as centers of knowledge in child health, so that physicians and dentists in practice can further educate themselves and each other. This can be accomplished by having meetings, clinics and conferences of high enough quality to attract all physicians and dentists interested in the health and welfare of children.

Recommendation on Hospitals

We recommend that the state pay the full cost of hospital care for those who cannot pay. At present the high pediatric standards in our hospitals are being jeopardized by the financial drain on the limited resources of these institutions. The high quality of our hospital care is shown by our low infant mortality rate, as well as the excellent characteristics of our hospital care for children as shown by the study.

Recommendations on Well Child Conferences

We recommend that the local medical societies, the State Division of Child Health and the local community health agencies review the situation with a view to getting a child health conference started in each town. Also, it is the responsibility of the afore-mentioned agencies to formulate and present a program of education among parents to stress the importance of health supervision of well children.

In attendance at well child conferences, Rhode Island was not only below Massachusetts and Connecticut, but was *far below* the national average. One reason for this is that well child conferences are available in less than half of our communities.

In a densely populated area such as Rhode Island, the rural population have good medical facilities within easy commuting distance. However, whereas parents will transport ill children long distances for medical attention, it is against human nature to seek prophylactic advice or treatment unless it is easily accessible.

In the past, vigorous attempts have been made to promote well child conference service in outlying cities and towns, but they have been abandoned for lack of attendance.

At present, in our well child conferences, psychologic or psychiatric consultation services are not available. Practically, this lack could be overcome by utilizing physicians oriented in the emotional needs of children as well as growth and development, to serve in the conference on a consultation basis if necessary. In this way, many major behavior defficulties can be averted by detecting minor emotional upsets early, and offering proper guidance.

In an era where so many conditions detrimental to adulthood can be corrected in the formative years, it would seem that the great preventive job in both physical and mental health could be performed in the well child conference to those children whose parents otherwise could not afford modern medical care.

Recommendations for Services to the Physically Handicapped

1. We recommend state-wide speech, vision, and hearing clinics under medical supervision be established for children with these handicaps. These should include not only diagnostic services by a medical team, but also treatment, training, and counselling by qualified therapists and teachers. Similarly, there should be comparable out-patient services available for the child with epilepsy.

2. We recommend provisions be made for the special education and recreation of the retarded child who is not in an institution. This can be done preferably in groups under the supervision of a special educational director in the department of education, or, in the children confined to the home, through particularly qualified home teachers strategically placed throughout the state.

Recommendation on Communicable Disease Control

We recommend that a more intensive state-wide

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RECOMMENDATIONS FOR CHILD HEALTH SERVICES IN RHODE ISLAND

continued from page 518

effort be made through the existing facilities, both state and local, to increase the number of children immunized against whooping cough, diphtheria and lockjaw. In view of the potentially high mortality rate in early life from whooping cough, these immunizations should be given in infancy.

Recommendations on Mental Health

A. We recommend that the mental hygiene services in Rhode Island be expanded to handle the ever increasing load of children with emotional disorders. For children with behavior problems the Child Guidance Clinic should reach throughout the state, the Emma Pendleton Bradley Home should establish an out-patient department, while the Butler Hospital out-patient department should have a special section for the adolescent. Similarly, the State Hospital and Exeter should have out-patient departments which can be utilized for diagnosis and treatment of the retarded or psychiatrically disturbed child.

B. The official agencies (State Department of Health and Social Welfare), through a mental hygiene section, could offer diagnostic services to the Juvenile Court and other agencies dealing with delinquency or emotional problems. State-wide psychiatric services to the public schools could come under this section. A hospital section, where short term psychiatric studies could be done for children who are brought to court, would be an answer to a current need.

C. General Hospitals with established psychiatric out-patient sections should have special clinics for the diagnosis and treatment of behavior disorders of children. These could be under the supervision of a physician trained in child psychiatry.

Recommendations on School Health

We recommend that a vigorous attempt be made to have every school child given an adequate physical examination in the first, third, sixth and ninth grades. In cases where the parents cannot take the child to his own physician, this examination should be done by the school doctor with the parent present to give the necessary information. The school doctor should be adequately paid. The advice and support of the local medical profession should be sought in planning this program.

We also recommend that a vigorous attempt be made to get every school child to go to his dentist once a year and that clinic services be supplied for those who cannot afford to pay.

We recommend that the College of Education and the School Departments emphasize the importance of health education in the schools, so that the teachers can pass on to the parents and children an intelligent interest in this phase of education.

Recommendation on Newborn

We recommend that as far as possible the "Standards and Recommendations for Hospital Care of Newborn Infants (Full-term and Premature)", prepared by the Committee on Fetus and Newborn of the American Academy of Pediatrics, be adopted by all the hospitals in the state of Rhode Island.

Copies of this manual may be obtained from Clifford G. Grulee, M.D., 636 Church Street, Evanston, Illinois.

Dental Recommendations

1. We recommend that dentists, physicians, public health authorities and parents cooperate to the end that all children obtain preventive dental care beginning at the age of three.

2. As before mentioned under school health, we recommend that a vigorous attempt be made to get every school child to go to the dentist once a year and that clinic services be supplied for those who cannot afford to pay.

3. We recommend frequent conferences between dentists and physicians in order to study and evaluate newer concepts of preventive procedures for dental care of children. This should be done on a local and informal level as well as in joint conferences of medical and dental societies.

DIAGNOSTIC TECHNIQUES FOR CHILDREN WITH CEREBRAL PALSY

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stretched. The athetoid and ataxic stumbles and lurches in a characteristic fashion.

In mild cases of brain injury, it may require two or more pathologic reflexes to be present for a clinical diagnosis to be substantiated.

Contributory to the neurological examination is evidence of disordered thinking or a personality defect. These are usually manifested by behavior traits, such as a variability in mood, hyperactivity, impulsiveness, and short attention span[11]. These symptoms, in an overtly awkward child suggests a mild type of cerebral palsy.

Conclusions and Summary

(1) A diagnosis of cerebral palsy may be made early in infancy in the majority of children with the signs and symptoms that have been outlined.

(2) A history should include information on familial or genetic factors, maternal health, pregnancy, delivery and the neonatal periods.

(3) A developmental history will often give leads in the diagnosis. The main ones are dates of development of head control, rolling, crawling, and standing with support.

(4) Developmental tests which are essential in establishing a diagnosis have been outlined.

(5) A short neurological examination, starting with the head and working downwards will invariably reveal signs of brain injury in those cases with suspicious histories or developmental tests.

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BOOK REVIEWS

PUBLIC HEALTH IN THE WORLD TODAY, edited by James Stevens Simmons, with a foreword by James Bryant Conant. Harvard University Press—$5.00.

This book is a collection of twenty-two papers by eminent health authorities together with an introduction by General Simmons and a foreword by President Conant. These twenty-two papers are arranged in four sections dealing with the Profession of Public Health, Public Health in the United States today, Public Health Programs and Problems Abroad and Public Health in a New Era. While not a text book, it is nevertheless authoritated in its entire contents. The lay person interested in health problems, a student, the Physician and the Health Officer can all derive much value from reading this book.

One can quickly see the change in the concept of Public Health, on reading this book. It is no longer the duty of the Health Officer to simply prevent disease, but rather to maintain the efficiency of his community at the highest possible level. Likewise, it is no longer the function of the Physician to cure disease but to maintain the efficiency of his private patient at the highest possible level. All articles are well written and all tend to make the process of thinking a little less painful.

JOSEPH SMITH, M.D.

NUTRITION AND DIET IN HEALTH AND DISEASE by James S. McLester. W. B. Saunders Co., Philadelphia, 1949, 5th ed. $9.00

The 5th Edition of NUTRITION AND DIET IN HEALTH AND DISEASE by McLester is the best reference or textbook of its kind.

FRANCES L. WARE
Director of Dietetics,
Rhode Island Hospital

BLOOD TRANSFUSION by Elmer L. DeGowin, Robert C. Hardin and John B. Alsever. W. B. Saunders Co., Philadelphia 1949. $9.00

The newest book on the many details of blood, plasma, and the various derivatives of each in relation to transfusion, is very clearly written in a language that the general practitioner or specialist can very readily absorb. The many important details of collecting, storing and processing that are usually between the lines are carefully explained. The relation of the Blood Bank to the rapidly growing demands for blood has been thoroughly detailed with particular reference to Community, Regional and State Blood Services. This happy combination of details will make this book a valuable addition to any hospital or physician's library.

ORLAND F. SMITH, M.D.

THE COMPLETE PEDIATRICIAN by Wilburt C. Davison, M.D. Duke University School of Medicine, Durham, 6th Edition, 1949.

As usual, Dr. Davison has an indispensable book of Pediatrics for the use of general practitioners or specialists. This is a book which contains a world of information. It is cross indexed so as to save space. The main book is divided into seven chapters which contain a description of different diseases as regards their symptoms and signs involving that particular system.

Chapter 8 is a very complete description of laboratory techniques. Chapter 9 includes information on foods and diets. General measures include the material in Chapter 10. Chapter 11 includes the principles of growth and development and guidance, which is so important today. The instructions for taking pediatric histories and doing physical examinations are included in Chapter 12. The necessary Pharmacopoeia used in Pediatrics is included in Chapter 13.

This book is a veritable gold mine of Pediatric knowledge and should be included in the library of every practicing physician who deals with infants and children. The 6th edition includes a rewriting of parts of the whole book. It required 479 hours to do, over a period of ten months, in addition to ½ hour daily for the past three years, reading and abstracting the 2418 references used.

As so aptly and humorously put by Dr. Davison, this book does not "resemble the old fashioned hoop skirt in covering the subject without touching it. This book is like a G string in touching the subject without any pretense of covering it or, even more aptly like a brassiere, only touching the high spots."

RICHARD K. WHIPPLE, M.D.